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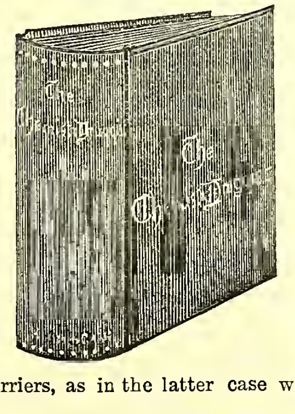
The British Dental Association will hold its annual meeting in Glasgow on the 18th, 19th, and 20th of August.

The important pharmaceutical question of the day is whether the Pharmaceutical Council will next week resolve to appeal to the House of Lords in the action against the Leith Depôt (Limited), decided against them last week.

Corner for Students.—An error occurred in our last issue in reference to the dates fixed for applications for samples. We therefore correct our last by stating that applications for samples may still be sent in until August 2, and that the samples for analysis will be issued a few days later.

The reading cases which we offer to subscribers are now used by a very large number of chemists, and are found very convenient. They keep together thirteen numbers in very tidy form, always ready for reference. By having two cases in hand the numbers of a complete volume are always available until the time comes for binding. We sell these cases at the office for 1*s.*, or by parcels post 1*s.* 3*d.*, or two for 2*s.* 3*d.* We cannot forward them to any house for enclosure, nor by any of the carriers, as in the latter case we have to pay for booking.



Foreign and Colonial.

Export of Compound Preparations to Italy.—Exporters of Compound medicinal preparations will do well to note that the new Italian customs tariff—of which some particulars were given in a recent issue of this journal—has now passed the legislature. Under its provisions no compound medicaments can be imported into Italy save by permission of the Superior Court of Public Health in Rome (Consiglio Superiore di Sanitá), and orders have been sent to the Italian Customs authorities to detain all shipments of such medicines at the frontier until the requisite permission is obtained. Exporters will therefore do well to at once send samples of their preparations to Rome, and obtain a standing permission to import their specialties.

Bay Rum Trade-mark Case in Germany.—A lawsuit has just been brought against the Hamburg perfumery firm of C. Riese, for having fraudulently used the registered trade-mark of Mr. H. Michelsen, of St. Thomas, West Indies, on bay rum sold by the defendant. It appeared that Mr. Riese had been for many years in business relations with Mr. Michelsen, from whom he bought bay rum in casks, afterwards bottling it in Hamburg, and providing it with labels similar to those used by Mr. Michelsen himself, and apparently with the latter's knowledge. In 1884 Mr. Michelsen instructed his Hamburg agent, a Mr. J. L. Saune, to enter his trade-mark in the German register, a proceeding of which the firm of Riese was informed in 1885. As soon as the defending firm heard that Mr. Michelsen's trade-mark had been registered in Germany they wrote to the St. Thomas House, requesting permission to continue the use of the trade-mark on the bottle-labels, and while awaiting an answer to this request they continued to affix the label to the bottled bay rum which they sold. Mr. Michelsen wrote declining to allow the continued use of his trade mark, whereupon Mr. Riese substituted another label, which was now complained of as being a colourable imitation of the St. Thomas trade-mark. The genuine labels consisted of a representation of a bay rum leaf on a white background, with the words "Bay Rum. H. Michelsen in St. Thomas," whereas those used by Mr. Riese contained the same leaf on a golden background and bore the legend "Bay Rum *of* H. Michelsen in St. Thomas." On behalf of Mr. Riese it was shown that the latter did buy all the bay rum bottled by him in bulk from Mr. Michelsen's firm only, and that Mr. Michelsen had omitted to have his trade-mark entered at Leipzig, where a register of foreign trade-marks protected in Germany is kept as well as at Hamburg. In the result the Court decided against the St. Thomas manufacturer.

Zanzibar Imports.—The following are mentioned as being among the principal pharmaceutical articles of import into Zanzibar:—Soap of inferior quality, which is very largely used, and of which the United Kingdom is the largest provider. In 1884–85 this country exported to Zanzibar 35,000 boxes soap of 22 lbs. each; the United States, 30,000 boxes of the same weight, but of much lower quality; Germany, 10,000 boxes of 25 lbs. each; and France, 5,000 boxes of only 9 kilos. each. Fruit syrups are in good demand, and their use is extending. They are to some extent manufactured in the country; but there is a growing market for European syrups, of which in 1884–85 400 cases were taken from France. Raspberry, red currant, and pineapple are among the most popular of these. Chemical products, with the exception of soda, alum, sulphate of copper, and sulphuric acid, are not much used. The supply is principally covered by England. Oils, colours, and varnishes are imported from England and Germany, but only to the extent of about 400*l.* worth per annum. Candles are very largely used in the island. They are imported from France and Germany, and are mostly of very inferior quality, selling at half a rupee per lb. of six candles. Seven thousand cases of 12 kilos. each were imported last year. Petroleum, which is received direct from the United States, is now generally used for illuminating purposes. About 1,600*l.* worth of olive oil is annually imported from France, while the use of coal-tar is extending, the annual imports from England amounting to some 150 barrels.

Metropolitan Reports.

The Poplar Dispenser.—At the meeting of the Poplar Board of Guardians on Friday last an addition of 25*l.* a year to the salary of Mr. R. E. Jones, dispenser, was proposed in consideration of increase of work. It was explained that an increase made in the salary of Mr. Jones three years ago brought it up to 140*l.* An amendment to give an increase of 10*l.* was discussed; but it was ultimately agreed to grant an addition of 15*l.*

The Bane and the Antidote.—Some time ago a woman tried to poison herself with a mixture of sulphate of zinc and sugar of lead, but did not succeed. Possibly the Hackney woman who appeared at the Worship Street Police Court on Tuesday thought she would do better with oxalic acid and sugar of lead, but that was only potent enough to lead to her arrest, and now she is to have a week to repent.

South London School of Pharmacy, Kennington Road, S.E.—The following prizes were awarded to the successful competitors at the school examinations held on June 29, 30, and July 1, 2, 1887, and will be presented at the opening of the session in September next:—Senior Chemistry—Medal, F. A. Cairns; Certificate, T. Fields. Junior Chemistry—Medal, A. J. Harrison; Certificate, H. H. Robins. Botany—Medal, J. G. Mathews; Certificate, V. E. Newbould. Materia Medica—Medal, J. R. Barrett; Certificate, A. U. Gray. Pharmacy—Medal, D. Davies; Certificate, J. H. Cain. The "Pridmore" Prize, A. Ashfield. Secretary's Prize (Gold), G. D. Loveluck. Extra Certificates of Merit—Messrs. Ashfield, Ferriday, Giles, Penny, Potter, Slinn, and Taylor.

The Barber-Dentist.—An American gentleman called at Bow Street Police Court on Saturday last to tell Mr. Vaughan, the presiding magistrate, how he had been done. He said he went into a shop in the Strand to get shaved. He then had his hair cut and was shampooed, after which "the smooth-tongued chap" who waited upon him persuaded him to have the tartar removed from his teeth. To this proposition the American consented, and when that delicate—and possibly necessary—operation was performed he professed extreme surprise at being charged seven shillings and sixpence, which he considered an "extortion." Of course Mr. Vaughan could only suggest that the applicant should have struck a bargain before having his teeth scaled. We should advise the innocent "American gentleman" to take his next complaint to Lord Young.

A Partnership Question.—In the Queen's Bench Division of the High Courts of Justice on the 22nd inst., Mr. Justice Grantham and a common jury had before them the case of Onslow & Co. *v.* Bartram. It was an action brought by the plaintiffs, who were cordial manufacturers carrying on business at Holland Road, Brixton, against the defendant, Mr. Lionel W. Bartram, of Elinville, Bromley in Kent, to recover damages for breach of contract to enter into partnership, and 25*l.*, the amount of a cheque which it was alleged had been paid as a deposit. Mr. Onslow, the plaintiff, on being called, stated that the profits of the business were from 8*l.* to 10*l.* a week; the defendant was to bring in 400*l.*, and pay a deposit of 25*l.* He gave a cheque for that amount, but payment was stopped. The defendant said that the arrangement was that the cheque should be returned should his solicitor not approve of the partnership, and the whole matter was to then fall through. The jury found a verdict for the plaintiff, damages 30*l.* Judgment entered accordingly.

Using the Royal Arms.—At Marlborough Street on Saturday last the Medical Electric Belt, Truss, and Health Appliance Company (Limited), of New Bond Street, was summoned by C. B. Harness for having on July 11, without the authority of Her Majesty, or any of the Royal Family, or any Government Department, used in connection with their business the royal arms in such a manner as to lead persons to believe that they carried on business under such authority. It was alleged by the prosecution that the company described above had been formed by two men who had been in the employ of a company of which plaintiff was manager, and that they had started a business in Bond Street exactly similar to that of the complainant company, unlawfully affixing the royal arms on the premises without having the necessary authority. For the defence it was urged that before the defendant company took the premises in Bond Street the royal arms were affixed across the portico, and they had no right to remove them as they were the property of the superior landlord. The case, which occupied the Court for a considerable time, was ultimately adjourned for a week.

Excursion.—Last Saturday the employés of Messrs. Burroughs, Wellcome & Co. enjoyed, through the liberality of the firm, a day in the country. The company, which numbered over a hundred, and included Mr. S. M. Burroughs (who has just returned from a short trip in the States) and Mr. H. S. Wellcome (now invigorated in health after ten months' sojourn in his native country), with a few friends, left Liverpool Street for Theydon Bois at 9.20 A.M. Thence they walked to Rigg's Retreat, and explored the forest in the neighbourhood. At twelve o'clock luncheon was served, and thereafter sports were engaged in, the ladies indulging in archery, tennis, and an amusing egg-and-spoon race. The various items for gentlemen were hotly contested, some of them, such as the sack race, affording considerable amusement. The company were then photographed by Mr. Kirby, cashier, and that done sat down to dinner in Rigg's Retreat. At this Mr. Burroughs presided, and Mr. Wellcome occupied the vice-chair. After dinner an excellent programme was gone through. In proposing the toast of "The Firm," Mr. Sudlow (manager) referred to the success which had followed their efforts. The partners responded. In the course of his remarks Mr. Wellcome stated that the principle of the firm to give every employé a direct interest in the progress of business by distributing a share of the profits produced not the smallest part of the success which Mr. Sudlow had spoken of. After the employés had been toasted, Mr. Burroughs distributed a number of valuable prizes to the successful competitors in the day's sports, and he also received a handsome walking-stick for himself as the first prize in the veteran's race. Other toasts followed, and several songs were excellently rendered by gentlemen of the company, one lady visitor also doing splendidly in this department. Most of the company returned to town by the 8.40 train, and all declared the excursion to be the most enjoyable and successful one which they have had. The partners of the firm and their managers, Dr. Witte and Mr. Sudlow, with the assistance of the stewards, contributed greatly to the day's enjoyment. The weather clerk also did his share.

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor, will much oblige.

BIRMINGHAM.

Thanks to Advertisers.—A soap firm have recently sent round to every house in Edgbaston a small flute with a song set to music eulogising the particular manufacture of the firm, and a Balsall Heath chemist has presented to every householder in his locality a Jubilee sample of his liver pills. How sad for the poor people whose livers work properly!

The Midland Counties Chemists' Association have issued the following to their members:—"Dear Sir,—It has recently come to our knowledge that the Inland Revenue officers have received instructions from Her Majesty's Treasury with respect to the sale of 'Liebig's Beef Wine,' 'Vino Vermouth,' and other wines, which are not sufficiently medicated to prevent them being used as a beverage. For all these the seller *must have a wine licence.* The B.P. medicated wines are, of course, excepted. We have thought it necessary for your interest as a member of our Association to inform you of this fact.—We are, yours faithfully, Chas. Thompson, F. H. Alcock, Hon. Secs. Any information on other subjects relating to the trade, and which we could use with advantage to our members, so as to give timely warning, will much oblige."

Cricket.—The members of the Midland Counties Chemists' Association organised a match between their married and single representatives, which was played at Cannon Hill Park on July 20. The following was the full score :—

Married.	
Owen, Mr., b Ground	21
Barlow, Mr., b Howes	0
Drew, Mr. (Capt.), b Howes ..	8
Thompson, Mr., b Ground ..	14
Cripps, Mr., b Ground	39
Brown, Mr., ct and b Ground	0
Magor, Mr., b Ground	3
Hollick, Mr., b Alcock	2
Ferriday, Mr., b Ground ..	3
Prowse, Mr., not out	0
Prosser, Mr., b Alcock	0
B 16, l b 1, w b 5.. ..	22
Total	112

Single.	
Howes, Mr., ct and b Owen ..	12
Barnard, Mr., b Drew	0
Tullett, Mr. (Capt.), ct Drew, b Brown	11
Alcock, Mr. F. H., b Thompson	37
Ground, Mr., b Drew	0
Hunt, Mr., st Drew, b Cripps ..	4
Hill, Mr., b Cripps	0
Hughes, Mr. C., ct Thompson, b Cripps..	24
Wilkes, Mr., absent	0
Whitly, Mr., not out	4
Cross, Mr., l b w, b Cripps ..	41
B 19, w b 5, n b 1.. ..	25
Total	158

BOURNEMOUTH.

A NEW avenue of shops, called the Town Hall Avenue, has been opened here, and the syndicate are anxious to include a pharmacy among them.

DUBLIN.

PHARMACEUTICAL SOCIETY OF IRELAND.—At a special meeting of the Council held on June 22, Mr. Charles Evans, M.P.S.I., was elected a Member of Council, in the room of Mr. John Evans, L.A.H., M.P.S.I., resigned.

DUDLEY.

A CHEMIST CONVICTED.—At the Police Court on Monday, before Messrs. W. E. Walker (Mayor) and J. Russell, Harry Lea (34), dispensing chemist, Dunstall Lane, Wolverhampton, was charged on remand with stealing a quantity of drugs and other articles, valued at 4*l.*, the property of the Supply Stores Association (Limited). The prisoner had been in the employ of the Association three times, the last time about a fortnight. On Tuesday last some goods were missing from prosecutors' shop in High Street, and the prisoner being suspected of stealing them, he was arrested, after which it was ascertained that he had removed a large portion to his shop at Wolverhampton. Prisoner pleaded guilty and asked to be leniently dealt with. Mr. Ince, who represented the prosecutors, asked for the accused to be leniently dealt with. The magistrates sentenced him to one month's imprisonment with hard labour.

LIVERPOOL.

THE AMMONIA SODA PROCESS.—Applications are invited for 46,000 preferred shares of 5*l.* each issued by the Cheshire Alkali Company (Limited). The capital of the company is 300,000*l.*, in 5*l.* shares, and the vendor, Dr. Pick, formerly manager of Brunner, Mond & Co. (Limited), accepts the whole of the purchase-money in deferred shares—14,000 in number. The company has been formed to manufacture alkali and other chemical products, more especially by the ammonia-soda process, under patented improvements by Dr. Pick. Colonel Samuel Lloyd Howard, of the firm of Howards & Sons, chemical manufacturers, Stratford, is announced as one of the directors.

POISONED BY CALABAR BEANS.—Four children were on Tuesday admitted to the Southern Hospital, Liverpool, suffering from symptoms of poisoning. It was ascertained that the symptoms were caused by eating Calabar beans, which they had picked up at the bottom of Parliament Street. A bag containing the beans had burst on a cart, and the beans fell to the ground and were picked up by the children. They were attended by Dr. Dixon, and are progressing favourably.

SUGAR AMONG DRUGS.—At the meeting of the Liverpool Select Vestry on Tuesday a letter was read from the Local Government Board, stating that from the workhouse accounts it appeared 26*l.* 5*s.* 11*d.* had been charged last year for sugar under the head of drugs. The chancellor of the audit department desired to be furnished with a statement from the Board as to the apparently excessive use of sugar in compounding drugs. (Laughter.) The Clerk stated that the sugar in the return meant sugar, &c., and included all articles that came from the grocer, such as starch, mustard, vinegar, and syrup. (Laughter.) With the permission of the Vestry, he would furnish all that to the chancellor of the audit department. (Hear, hear, and laughter.) Considering that their hospital contained 1,500 beds, it did not strike him, had this sum all been for sugar, it would have been very much. Members expressed their opinion that the interest the chancellor took in them was very kind, quite paternal indeed.

PLYMOUTH.

DEVONSHIRE ASSOCIATION.—The annual meeting of this Association was held at Plympton Guildhall on Tuesday, under the presidency of the Rev. W. H. Dallinger, F.R.S., who delivered an address on "Spontaneous Generation Not Proved."'

DOCTORS DIFFER.—At the Devon Summer Assizes on Tuesday Ann Bushen, 55, was charged with the murder of the newly-born child of a charwoman by the administration of a corrosive poison. Dr. Augustus Bampton, who made the post-mortem examination, stated that the charred condition of the child's stomach was caused, he believed, by oil of vitriol, and death was the result. Mr. Robert Oxland, analyst for Plymouth and Devonport, who analysed the viscera, said that he did not observe the charring spoken of by the previous witness, nor did he find sulphuric acid or other mineral poison in the stomach more than was natural. Dr. Thomas Stevenson, who had examined the exhumed body, also stated that he could not detect any free acid. In consequence of this conflicting evidence, the judge indicated that it was useless going on with the case, which was accordingly abandoned. The prisoner, along with the mother, were tried on Wednesday on another charge—manslaughter.

RAMSGATE.

RELIGIOUS MANIA.—On Tuesday night, between twelve and one o'clock, a man was seen to emerge from a chemist's shop in Queen Street, in a state of frenzy, and very scantily clothed. He fled at the top of his speed towards the Market Place, and turned up High Street. The police gave chase, but the maniac outstripped them, and they eventually lost sight of him. It was afterwards discovered that it was Mr. Glanville, the proprietor of the shop, and that he had gone in the direction of Margate, which he reached in a state of entire nudity. He was taken into custody by the Margate police, and has since been removed to London in charge of his friends. It is stated that he had recently joined the Salvation Army, and that he is suffering from religious mania.

SOUTHAMPTON.

APPRENTICES' INDENTURES.—A writ has been served upon a local chemist for 100*l.* damages for breach of contract under the following circumstances. A youth was apprenticed to the proprietor of a local pharmacy under ordinary indentures; and although more than a twelvemonth of the term specified in the document is still unexpired, the father of the youth has commenced this action on the grounds that the time of the apprentice has been occupied in "dusting" and other minor duties, instead of acquiring the dead languages and a practical knowledge of the higher branches of the "craft." The case is entered at the forthcoming county assizes, and counsel are, we believe, instructed on both sides.

ST. HELENS.

A CATTLE SPICE TRANSACTION.—At the County Court on July 20, James Eggo, cattle spice manufacturer, York and Hull, sued H. Houghton, grocer, Sutton, St. Helens, for 2*l.* 16*s.*, the price of 3 cwt. of "Eggo's Celebrated Cattle Spice." Plaintiff said he sold to defendant on February 1 4 cwt. of cattle spice, and sent him an additional cwt. for samples. When the bill became due in three months, defendant paid 1*l.* 1*s.* towards the account, and returned 3 cwt. unsold. Plaintiff refused to receive the unsold spice. In cross-examination he admitted he was a director of the Crown Cattle Spice Manufacturing Company at Hull, and that the stuff he sold was very similar to the Crown Company's spice. He did not know whether the Crown Company immediately afterwards appointed a man in Sutton, although he was a director of the company. Defendant and his wife both swore that plaintiff promised to take back the spice if it were not sold. His Honour pointed out that defendant had signed a document which left out the important stipulation as to returning any unsold spice. The plaintiff's evidence was consistent with the written document, and his printed invoices stated that no goods would be sent on sale or return. The jury, however, insisted on finding a verdict for defendant. The judge said it was the most unreasonable verdict he had heard, and on plaintiff's application granted a new trial.

SCOTLAND.

EDINBURGH.

PHARMACEUTICAL SOCIETY.—The first meeting of the executive of the North British Branch was held on Wednesday. The business was of a routine character. Mr. H. B. Baildon was elected chairman for the next twelve months, and Mr. Watt, Haddington, vice-chairman. The members of the executive resident in Edinburgh were appointed a local purposes committee to make arrangements for the evening meetings, and to settle other small matters.

THE LEITH DEPÔT CASE.—The recent decision of the High Court of Justiciary in the Leith Depôt case has given rise during the past week to much conversation both among chemists and the general public. The decision was in many quarters feared, if not altogether anticipated. The prompt disposal of the case, although no doubt irritating, was perhaps less disappointing than would have been a more clearly reasoned legal decision. The irrelevant remarks with which Lord Young concurred in the opinion expressed by the Lord Justice Clerk are regarded as only " pretty Fanny's way." His Lordship is well known to have a liking for a " fling " of this sort when occasion arises. In such a case his remarks usually appear to be prepared for the press than directed to the question at issue. However eminent he may be as a lawyer, his discretion in the matter of "remarks" has not the reputation of being of a high order. Be that as it may, the decision of the High Court is regarded as unsatisfactory, not only by legitimate chemists who might be expected to take this view, but by the most intelligent part of the public, who say that they do not understand the reversion of the Sheriff's judgment. The reasons for the Sheriff's decision they can understand and appreciate, but the conclusions of the Appeal Court are a puzzle. They cannot get over the fact that seven unqualified persons by forming themselves into a corporate body are doing that which no one of them could do as an individual.

ELGIN.

AN AËRATED-WATER BUSINESS.—In the Court of Session last week, before Lord Fraser, a suit by George Sutherland, aërated-water manufacturer, against John Elttes, chemist (both of Elgin), was heard during four days. The pursuer said that in June, 1886, he entered into treaty with defender for the purchase of the business in question, and that he was induced to purchase it by misrepresentations. He had no knowledge of the aërated-water business and relied entirely upon the representations made to him by the defender, which were to the effect that the returns for the previous year amounted to 2,500*l.*, being an overstatement by at least 1,000*l.*, that the annual profit was 800*l.*, and that the business was extensive and increasing. In consequence of these representations he agreed to pay 2,500*l.*, made up as follows :—For good-will, 500*l.*; machinery or plant, 500*l.*; horses, harness, and vans, 317*l.*; accounts, 263*l.*; bottles, cases, hay, straw, &c., 960*l.*, less a deduction of 40*l.* on account of bottles. He says that the good-will was entirely worthless. He had given the business a trial of over six months, had used every endeavour to promote and extend it, and had discovered that the drawings did not amount to more than 1,400*l.* or 1,500*l.*, which made it a profitless concern. It was averred that in November, after a conversation with pursuer as to the state of the business, defender destroyed the stock list and pursuer's offer. Pursuer also said the machinery was worth not 500*l.*, but only slightly over 200*l.*, and that the value put on stock, &c., was purely fictitious. He claims therefore repayment of the 2,500*l.*, or payment of 2,000*l.* as damages, being the difference between the price and the sum of 500*l.*, which, he says, is all the subjects would fetch in the open market; and he further claims 1,000*l.* for damages in consequence of having brought his wife and family and furniture to Elgin, and wasted about eight months without any return out of the business.

The defender denies in detail the material averments of the pursuer, and pleads that he is barred by his actings from objecting to the sale, or seeking to set it aside. Evidence was given by both sides at considerable length, and contradictory versions of the negotiations were given. The defender said the stock list and pursuer's offer had been destroyed inadvertently. He denied having represented the profit at 800*l.*, but said he had represented it at about 400*l.*, and that it might be worked up to 800*l.* The case was ultimately continued to the next sessions, which commence in October.

FRENCH PHARMACEUTICAL NEWS.

(*From our Paris Correspondent.*)

THE EMPEROR OF BRAZIL, on July 25, attended the regular weekly meeting of the Academy of Sciences, and received a cordial welcome. Dom Pedro d'Alcantara is one of the eight foreign associate members of the Academy.

M. FERRER, a pharmacist of Perpignan, has been, together with several doctors of medicine, created a knight of the " Mérite Agricole." The emblem of the order is a green ribbon, which may be worn alone.

M. CAPGRAND-MOTHES, the honorary president of the Syndical Chamber of the First-class Pharmacists of the Department of the Seine, has been appointed a member of the Commission of Public Hygiene and Salubrity of the ninth arrondissement of Paris, in place of Dr. Margolin, who had resigned.

THE CHAIR OF PHYSIOLOGY.—At a meeting of the Paris Faculty, held on July 21, the professors came to a vote on the successor to be presented for the late Dr. Béclard in the chair of physiology. Their choice was, first in order and unanimously, Dr. Charles Richet; second choice, Dr. Reynier. The election is subject to the Minister's approval.

AUCTION SALES-ROOM AT CALAIS.—By Presidential decree the Calais Chamber of Commerce has been authorised to open and manage a public wholesale auction sales-room for new goods and merchandise. This, of course, includes drugs and chemicals from any source. Formerly only secondhand goods were allowed to be sold at auction.

A CAUTION TO ENGLISH INVENTORS.—Van der Weyde's patent for the application of electric light to photography has been finally set aside by the Cour de Cassation, the highest court in France. The court held the process to have been devoid of novelty, because the English patent for the same, taken on October 2, 1876, and immediately published, rendered void the French patent obtained on February 1, 1877. An invention having received publicity in a foreign country can no longer be the object of a French patent. Hence the judgment of the Paris court, holding the patent and the four additional certificates void, is affirmed and appeal rejected. This ends a bitter legal contest.

POISONING BY CHROMIC ACID.—Dr. Tisné, at a meeting of the Société de Médicine Pratique, related a rather uncommon case which occurred lately. The patient was under a dentist's treatment for fungosities of the gums, and had been touched with chromic acid several times. At the last application he thought some of the caustic liquid had been swallowed with the saliva. An hour later the patient, a man aged forty-eight, was taken with intense pain in the nape of the neck and vertigo, then vomiting, and with much weakness. The matters ejected were of an emerald-green colour. Dr. Tisné ordered simply milk and albuminous water, with some iced champagne as a stimulant. The patient rapidly grew better, and had recovered the next day. There was no diarrhœa, notwithstanding colics and tenesmus, and a very limited emission of urine.

Pharmaceutical Society of Great Britain.

JULY EXAMINATIONS.

At a meeting of the Board of Examiners held in London, under the provisions of the Pharmacy Acts, on July 13, 14, 15, 19, 20, 21, and 22, the follcwing passed as Pharmaceutical Chemists:—

Brumwell, Chas. Wesley, Lincoln
Buchanan, Margt. Eliz., London
Cairns, Frederic Arthur, Birkdale
Coleman, Frank Hy., Chapel Brampton
Cooper, George Thomas, Market Bosworth
Davies, Edwd. Chas. Jas., London
Fields, Tom William, Beverley
Lance, Henry, Bow
Phillips, Alfred James, Trnro
Tench, Sidney Edwd., Brighton
Thomas, John, Oswestry
Williamson, Leonard Wright, Darlington
Wokes, Thomas Siminson, Hull.

The following also passed and were certified for registration as Chemists and Druggists:—

Acton, Fred. George, Worcester
Allott, Gilbert Hawkins Nicholls, Peterborough
Alvey, Wm. Smith, Nottingham
Anderson, Edwd. Ellice, Portobello
Andrew, Chas. William, Penzance
Andrews, Chas. Russell, London
Ashfield, Armishaw, Stratford-on-Avon
Baker, Alfred John Edward, St Austell
Baldwin, George Joseph, Loughborough
Barrett, John Richard, Devonport
Batchelor, William, Stalybridge
Bellamy, Robert Arthur, Bedale
Birkett, Frederic Jos., Workington
Bostock, John, Wilderspool
Brassington, Herbert Wm., Rugeley
Broomfield, Walter Henwood, Monmouth
Cain, James Harold, Douglas
Carr, Tom Wormald, Knaresborough
Carruthers, Ernest Murray, Cambridge
Caswell, Joseph Alban, Sedgley
Chapman, John, Bedford
Chapman, Thos. Wm., Birmingham
Charlesworth, Moorhouse, Saltaire
Clough, Thomas, Liverpool
Cox, Arthur Wellesley, Yeovil
Cox, Fredk. Hudson, Southampton
Cragg, Thomas, London
Dauncey, George, Wotton-under-Edge
Davies, David, New Quay
Duck, William George, Cardiff
Eberlin, Albert, Sheffield
Ferriday, Arthur Harry, Oakengates
Ferryman, Herbert, Rugby
Giles, William, Wallseud
Glendinning, Robert, London
Goodfellow, Edward, Thrapston
Gray, Arthur Underwood, Rothwell
Green, Joseph Henry Benjamin, Swindon
Grice, Jos. Edwd. Brindley, Brighton
Ground, Thomas, Birmingham
Hanson, Arthur Wm., Devonport
Harrisou, Arthur Jno., Nottingham
Higgins, Charles Alfred, Manchester
Hoare, William Herbert, Windsor
Holden, George Henry, Walsall
Islip, Charles Cater, St. Leonards
Jackson, Richard Herbert, Hull
Jeffries, Gilbart, Guildford
Jenkins, John, Pembroke
Jones, William, Aberystwith
King, Arthnr Hill, Maldon
Kirkup, George John, Newcastle-on-Tyne
Lenton, Joseph, Hastings
Lister, William Benjamin, London
Markham, Walter, Spalding
Marshall, Henry Bingham Kendall, Hardingstone
Metherell, John, London
Morrison, John William Thomas, Upper Holloway
Owen, Henry Jenkin, Llandyssnl
Palmer, James Taylor, Cambridge
Palmer, Wm. Mortlock, Meldreth
Parker, Edward, York
Parker, Frederick John, Chorley
Parry, John, Talgarth
Pater, Edward Rhodes, Newark
Pattinson, William, Hexham
Penny, John, Workington
Pérodeau, Edward Geo., Plymouth
Potter, Herbert Mills, Walsall
Price, Thomas Harry, Brecon
Price, Walter, London
Reid, David, Bathgate
Roberts, Francis, Durham
Roberts, Herbert, Halifax
Robins, Harry Hollies, Dudley
Shaw, John, Bradford
Shera, Wm. Arthur, Horncastle
Shillcock, Sydney, Bromley
Sliun, Albert Edward, Rhyl
Smith, Alexander Cyril Thompson, Horselydown
Spink, Harry Laing, Westminster
Stewart, Thomas Henry, Penzance
Strick, John Richards, „
Taylor, Fredk. Kaye, Bradford
Thomas, Dan, Hafod
Thomas, Henry Owen, Rhyl
Tite, John Reynolds, Towcester
Todd, Edwin Hodgsou, Carlisle
Wilkes, Thomas, Shrewsbury
Wilson, George Waite, Boston
Wilson, John Codnor, London

COUNCIL PRIZES EXAMINATION.

The competition for the Pereira medal and two medals offered by the Council came off last Saturday. The competition is open to persons connected with the Society who have passed the Major examination since July last. On Saturday only six candidates appeared at Bloomsbury Square, including one lady. The examination (which is a written one) lasted six hours; from ten to one being devoted to botany and materia medica, and from two to five to chemistry. The following are the questions which were given:—

Materia Medica.

1. What is caffeine? Enumerate the plants (with their habitats) from which it may be obtained, and describe a method of preparation.
2. Mention the active constituents of cubebs, and describe the chemical and physical characters of each.
3. What is kamala? Describe its appearance under the microscope, and state how you would ascertain its freedom from adulteration.
4. From what sources are the following substances derived:—Saponin, picrotoxin, safrol, coumarin, lanolin?

Botany.

1. Give a brief sketch of the life-history of *Claviceps purpurea*, and mention the conditions favourable to its growth.
2. What are the characteristics of the *Orchidaceæ*? Mention any products of economic value derived from plants of this order, and name the species by which they are yielded.
3. Describe the fructification of the *mulberry*, and explain its mode of development.
4. What are *Paraphyses*? In what natural orders do they occur?

Chemistry.

1. The silver salt of a monobasic acid gave upon analysis the following results:—

C	36·68
H	2·19
Ag	47·16
O	13·97
	100·00

What is the formula of the acid?

2. How would you determine the percentage of magnesium carbonate in a sample of dolomite?
3. State Avogadro's law. Mention any apparent exceptions with which you are acquainted.
4. Give an account of Kekulé's graphic formula for benzene. How are aniline, benzoic acid, phenol and pyrogallic acid related to benzene?
5. How is carbonate of lithium prepared? Give its characters and the tests for its purity.
6. What are the especial characteristics of the group of principles called "Alkaloids"? How would you proceed to ascertain whether the root of a given plant contained an alkaloid?

NEW COMPANIES.

R. Cresswell & Co. (Limited).—Capital, 100,000*l.* in 5*l.* shares. Object:—To acquire the business heretofore carried on by Randal Cresswell under the style of R. Cresswell & Co., on the terms of an agreement dated July 25, 1887, and made between the said R. Cresswell and James Warner, with or without modification. Mr. Randal Cresswell is to be the first managing director.

Brown & Gradige (Limited). — Registered on the 15th inst., with a capital of 4,000*l.* in shares of 1*l.* each. Object, to trade as chemists, druggists, and patent medicine vendors. The first subscribers (who take one share each) are:—F. J. J. Browne, bookseller, Andover; F. J. Browne, bookseller, Andover. F. J. Wallis, bookseller, Andover; W. J. Gradige, chemist, Andover; W. F. Thompson, chemist, Andover; E. Gradige, stationer, Andover; A. Gradige, stationer, Andover.

Professor Tuson's Disinfectant Company (Limited).—Capital 3,000*l.*, in 5*l.* shares, to acquire the patents of Richard Vine Tuson, professor of chemistry of the Royal Veterinary College, relating to disinfectants and deodorisers. The first subscribers (who take one share each) are:—C. W. Heaton, professor of chemistry, Belvedere, Kent; *W. O. Robinson, Belvedere, Kent; *F. Strobel Boully, Stock Exchange; H. Clothier, M.D., 1 North Road, Highgate; L. Pritchard, 151 Fellowes Road, N.W.; H. E. Johnson, 1 Cushion Court, Old Broad Street; W. Graham, iron merchant, Trig Lane, Upper Thames Street. The subscribers denoted by an asterisk are the first directors.

COMPETITION No. 11.

DISPENSING LABELS.

THE competition which we announced last month has been a fruitful one. We have received no less than 1,069 labels of various sorts from 135 individuals. We placed no restriction on the number which might be sent in by any individual, and many have taken liberal use of this allowance, while others have contented themselves with sending one or at the most three labels. We have thus brought together a variety of designs and a number of new ideas, the more important of which we shall present to our readers in this and subsequent issues. Competitors have adhered well to the conditions which were laid down in the announcement. One, however, who is as anxious as anyone to get the prize, wishes us *not* to print any of the labels which he sends. He, of course, is out of the running. Others have sent in labels and desire to give assistance, but they do not wish the prize. Even a colonial subscriber (Barbados) contributes his mite—too late, however, for competition, although he will get due credit for his effort. We have also received a number of labels in the French style, two of which will be found on the page opposite. Although the interest of the competition resides mainly in the designs of the labels, many who have competed naturally look with equal interest to the award. We have picked out the best examples of penmanship from the batch, and present these in *facsimile*.

If we may judge from the comments of competitors on this subject, labels are considered by them one of the most important adjuncts of pharmacy. Professor Remington on this matter says:—"A very great diversity of opinion and taste is apt to prevail with regard to the most suitable style of label to select for general use: formerly the home printer was exclusively depended upon, but the principle of division of labour has led to the establishment of 'druggists' printing houses' in several sections of the country. This has resulted in cheapening labels, and the labour seems to have been largely expended in this direction, and towards elaborating gaudy designs, very few attempts having been made as yet towards attaining that simplicity and elegance in design which the principles of good taste clearly dictate. Lithographed labels are sought for, principally because the designs more closely approach those of engraved labels; but engraved labels cannot be used generally, because of their costliness.

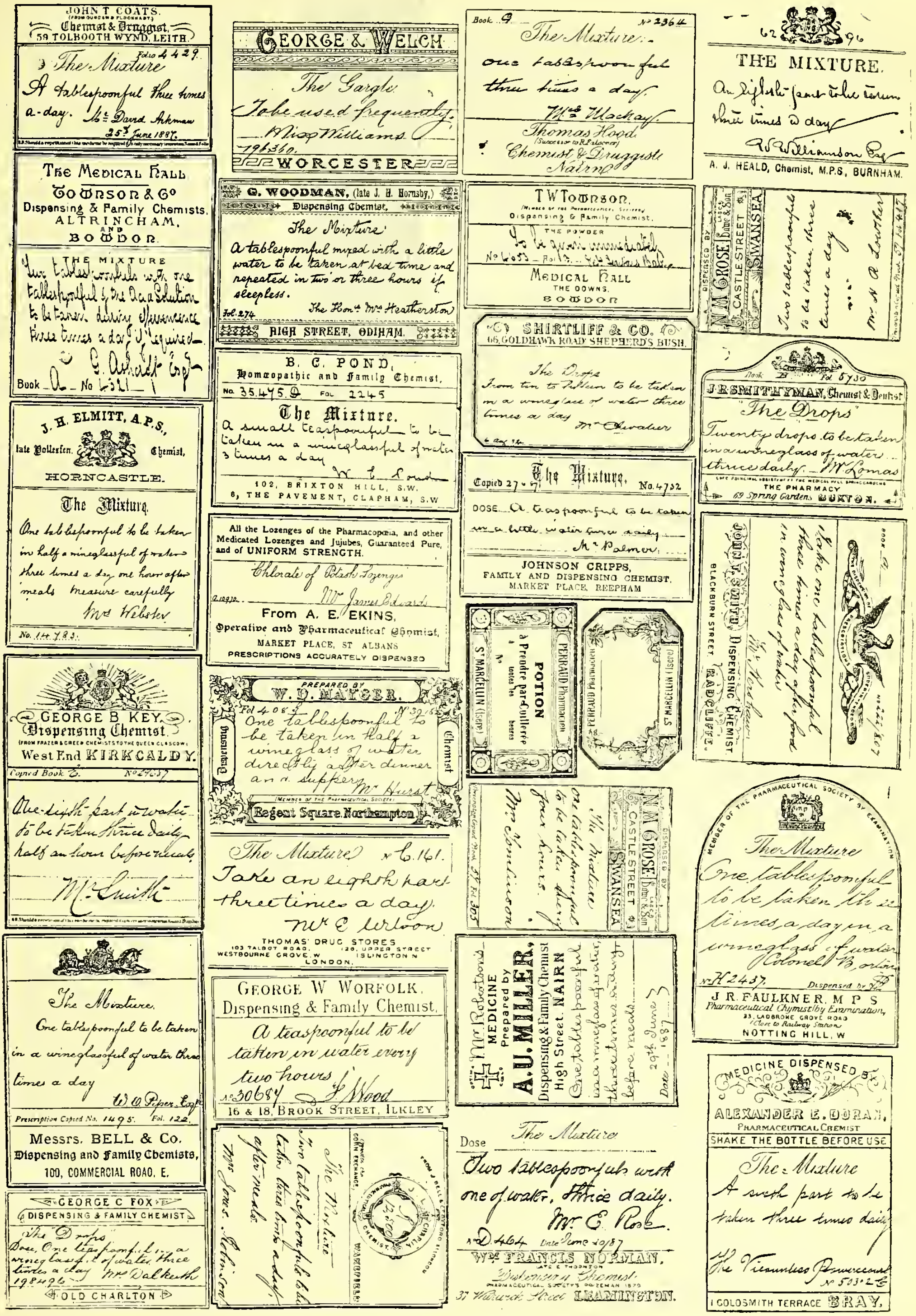
"Bronze, green, and red bordered labels are seen in label catalogues in great profusion, and in one a sentimental moonlight Venetian scene in colours is conspicuously displayed on a castor-oil label! One leading principle will probably be of service in this connection, and that is, to avoid loud, striking designs of all kinds. The appetite of all—patient, pharmacist, and physician—soon becomes satiated with such, and the notion that they influence business in any good way is soon proved to be a delusion. The almost universal tendency of printers in selecting type for a label is to choose the largest that can possibly be used to get the subject matter inside the border. The effect is exactly opposite to that which is usually desired, for it adds nothing to the neatness of the label, certainly sacrifices distinctness, and the general impression conveyed is that of a confused mass of letters which is more difficult to decipher than letters of the proper size and breadth of face, appropriately set off by sufficient blank space; plain black letters, on a white ground, are preferable. Neatness, distinctness, and simplicity are cardinal principles in designing labels, and the reputation of many establishments is frequently judged from the character of the outward signs of neatness and care. For this reason particular attention should be paid to prescription labels, not only to have the printed address plain, clear, and neat, but to have the handwriting to correspond. In these important particulars patients are exceedingly apt to form an estimate of the qualifications of the compounder of a prescription from the style of his penmanship, reasoning that, if he is careful, clean, and neat in the one particular of which they are competent to judge—*i.e.* the handwriting on the label—the compounder must exercise similar qualifications in the more vital operations involved in compounding and dispensing, for upon the technicalities of the latter they cannot hope to pass judgment."

Similar opinions were expressed by Mr. Peter Boa in an article on "The Cultivation of Taste in Practice of Pharmacy" (CHEMIST AND DRUGGIST, March 15, 1884). After referring to the selection of type, paper, and ink, this writer proceeds to say, that "The printed matter on blank labels—particularly those used in dispensing—should be as simple as possible. The name, designation, and address are quite sufficient to meet all requirements. The addition of 'chemist by examination,' and similar expressions, is in very bad taste. There is not any objection to such a parenthetic addition to circulars, but I entertain a decided conviction that a dispensing-label is not an appropriate place for an advertisement. Some pharmacists adorn their labels with a coat-of-arms, a mortar, or other device. While I would not entirely condemn embellishments of this kind when judiciously employed, I would say, without any hesitation, that we can never err in having our labels without them.

"When we have obtained a satisfactory dispensing-label, we must be careful to have whatever directions it contains neatly written. If it be clumsily written the beauty of the label is lost. The labour expended in perfecting the label is thrown away. And, again, the perfection of the label only serves to more clearly indicate the demerits of the writing. Those who are not good writers need not despair, and those who are expert penmen need not take to themselves too much credit until they hear all I have to say on this point. The best writers do not always execute the neatest labels. Sometimes an inferior writer produces a very neat label. So much of the effectiveness of a label depends upon the arrangement of the matter that, unless judgment be exercised in this respect, the most beautiful penmanship goes for very little, and greatly-inferior caligraphy may make a very presentable appearance when the way in which it is adjusted is judiciously managed. With regard to the writing itself, it should be distinct, easily read, compact, and free from flourishes. If it be good it can afford to do without any superfluous embellishment, and if it be bad no amount of adornment will hide its defects.

"In writing a label we must take care to balance the matter so that its parts may form a symmetrical arrangement. All the lines must begin and terminate at the same distance from the margin. If we write 'The Mixture' or 'The Powders,' we must take care that it is exactly in the centre. The appearance of a label is greatly marred by having it nearer to one side than the other. We must also be careful to manage the adjustment of the matter so that it may fill the label pretty well. To have a label with two lines of writing at the top and three left unoccupied at the bottom is to sacrifice its proportion. It is in this connection that a middling writer who has an eye for proportion in form may surpass a good writer in execution of a label. The free-and-easy writer too often trusts so much to the excellence of his work that he altogether neglects the just apportionment of its parts."

How far the principles enunciated by these writers are acted upon by pharmacists generally will become apparent as we report upon the labels which have been sent to us. We may say here, however, that among the thousand odd labels which have been sent to us there is not a single example of grossly bad taste. There are many which some would consider inelegant, and even too artistic; but these are comparatively rare. In making our selection, we have considered variety; occasionally a repetition of style may be apparent, but it will be found that there are details even in two labels of the same style which make one label preferable to the other. We do not propose to announce the award until the whole of the selection has been submitted. On the following page we reproduce a part of this selection, and the others will follow in due course. Those now given are half-size reproductions of the originals, and as the competitors have in most cases sent more than one label, we have selected those which show typical examples of their handwriting. We reserve comments for our next report. We have also received a large number of labels for liniments and other external applications. In most cases these are either printed on coloured paper, or with coloured ink on white. It will be impossible to reproduce them. The same remark applies in another sense to prescription envelopes, address labels, and the like; but we hope to have something to say regarding these and other printed labels which are used as safeguards for the patient.



JOHN T. COATS.
(FROM DUNCAN & FLOCKHART)
Chemist & Druggist,
59 TOLBOOTH WYND, LEITH.
Folio 4429.
The Mixture
A tablespoonful three times a-day. Mr David Aikman
25th June 1887.

The Medical Hall
Townson & Co
Dispensing & Family Chemists,
ALTRINCHAM,
AND
BOWDON.
THE MIXTURE
Two tablespoonfuls with one tablespoonful of the [illegible] Solution to be taken during effervescence three times a day if required.
G. [illegible] Esq
Book A No 4321

J. H. ELMITT, A.P.S.,
late Pollexfen, Chemist,
HORNCASTLE.
The Mixture
One tablespoonful to be taken in half a wineglassful of water three times a day one hour after meals measure carefully
Mrs Webster
No. 14783.

GEORGE B KEY.
Dispensing Chemist.
(FROM FRAZER & GREEN CHEMISTS TO THE QUEEN GLASGOW)
West End KIRKCALDY.
Copied Book E. No 24637
One-sixth part in water to be taken thrice daily half an hour before meals
Mr Smith

The Mixture.
One tablespoonful to be taken in a wineglassful of water three times a day
W. O. Piper, Esq
Prescription Copied No. 1495. Fol. 122.
Messrs. BELL & Co.
Dispensing and Family Chemists,
100, COMMERCIAL ROAD, E.

GEORGE C FOX
DISPENSING & FAMILY CHEMIST
The "Drops"
Dose, One teaspoonful in a wineglassful of water three times a day Mrs Dalkeith
198496
OLD CHARLTON

GEORGE & WELCH
The Gargle
To be used frequently.
Miss Williams
796360.
WORCESTER

G. WOODMAN, (late J. H. Hornsby,)
Dispensing Chemist,
The Mixture
a tablespoonful mixed with a little water to be taken at bed time and repeated in two or three hours if sleepless.
The Honble Mrs Heatherston
Fol. 274
HIGH STREET, ODIHAM.

B. C. POND,
Homœopathic and Family Chemist,
No. 35475 D Fol. 2245
The Mixture.
a small teaspoonful to be taken in a wineglassful of water 3 times a day
W. E. Pond
102, BRIXTON HILL, S.W.
6, THE PAVEMENT, CLAPHAM, S.W.

All the Lozenges of the Pharmacopœia, and other Medicated Lozenges and Jujubes, Guaranteed Pure, and of UNIFORM STRENGTH.
Chlorate of Potash Lozenges
a 10930. Mr James Edwards
From A. E. EKINS,
Operative and Pharmaceutical Chemist,
MARKET PLACE, ST ALBANS
PRESCRIPTIONS ACCURATELY DISPENSED

PREPARED BY
W. D. MAYGER.
Dispensing Chemist
Fol 408 No 3916
One tablespoonful to be taken in half a wineglass of water directly after dinner and supper. Mr Hurst
(MEMBER OF THE PHARMACEUTICAL SOCIETY)
Regent Square Northampton

The Mixture No C.161.
Take an eighth part three times a day.
Mr E Urloon
THOMAS' DRUG STORES
103 TALBOT ROAD, WESTBOURNE GROVE, W.
126, UPPER STREET ISLINGTON N
LONDON.

GEORGE W WORFOLK,
Dispensing & Family Chemist,
A teaspoonful to be taken in water every two hours
No 30684 J. Wood
16 & 18, BROOK STREET, ILKLEY

The Mixture
Two tablespoonfuls to be taken three times a day after meals
Mrs Jones. Robinson
Opposite the CORN EXCHANGE,
WAKEFIELD.

Book 9. No 2364
The Mixture:-
one tablespoonful three times a day.
Mrs Mackay.
Thomas Hood.
(Successor to R. Falconer)
Chemist & Druggist
Nairn

T W Townson.
(MEMBER OF THE PHARMACEUTICAL SOCIETY)
Dispensing & Family Chemist.
THE POWDER
To be given immediately
No 6053 – Fol 7 – [illegible]
Medical Hall
THE DOWNS,
BOWDON

SHIRTLIFF & CO.
66, GOLDHAWK ROAD SHEPHERD'S BUSH.
The Drops
From ten to fifteen to be taken in a wineglass of water three times a day
Mr Chevalier
6 aug 34

Copied 27-7 The Mixture. No. 4732
DOSE A teaspoonful to be taken in a little water twice daily
Mr Palmer
JOHNSON CRIPPS,
FAMILY AND DISPENSING CHEMIST,
MARKET PLACE, REEPHAM

PERRAUD Pharmacien
POTION
à Prendre par Cuillerée
à toutes les heures
No
St MARCELLIN (Isère)

PERRAUD Pharmacien
St MARCELLIN (Isère)

DISPENSED BY
N. M. GROSE,
LATE Dowe & Son
CASTLE STREET
SWANSEA
The Mixture
one tablespoonful to be taken every four hours.
Mr Tomlinson
Prescription Copied Book 57 Fol. 305

MEDICINE
Prepared by
Mr Robertson's
A. U. MILLER,
Dispensing & Family Chemist
High Street. NAIRN
One tablespoonful in a wineglassful of water three times a day before meals.
Date 29th June 1887

Dose The Mixture
Two tablespoonfuls with one of water, thrice daily.
Mr E. Rose.
No D.464 Date June 20/87
Wm FRANCIS NORMAN,
LATE E. THORNTON
Dispensing Chemist.
PHARMACEUTICAL SOCIETY'S PRIZEMAN 1879
37 Warwick Street LEAMINGTON.

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62 96
THE MIXTURE.
An eighth part to be taken three times a day
R. Williamson Esq
A. J. HEALD, Chemist, M.P.S., BURNHAM.

DISPENSED BY
N. M. GROSE,
LATE Dowe & Son
CASTLE STREET
SWANSEA
Two tablespoonful to be taken three times a day
Mr H A Lowther
Prescription Copied Book 57 Fol 417

Book B Fol 5730
J. R. SMITHYMAN, Chemist & Dentist
"The Drops"
Twenty drops to be taken in a wineglass of water three daily. Mr Lomas
LATE PRINCIPAL ASSISTANT AT THE MEDICAL HALL SPRING GARDENS
THE PHARMACY
69 Spring Gardens BUXTON.

JOHN T. SMITH,
DISPENSING CHEMIST,
BLACKBURN STREET,
RADCLIFFE.
Take one tablespoonful three times a day after food in a wineglass of water
Mr Hardman
BOOK A No 224/807

MEMBER OF THE PHARMACEUTICAL SOCIETY BY EXAMINATION
The Mixture
One tablespoonful to be taken three times a day in a wineglass of water
Colonel Borton
No H 2437. Dispensed by
J. R. FAULKNER, M.P.S.
Pharmaceutical Chymist by Examination,
33, LADBROKE GROVE ROAD
(Close to Railway Station)
NOTTING HILL, W.

MEDICINE DISPENSED BY
ALEXANDER E. DORAN,
PHARMACEUTICAL CHEMIST
SHAKE THE BOTTLE BEFORE USE
The Mixture
A sixth part to be taken three times daily
The Viscountess Powerscourt
No 503·2 E
1 GOLDSMITH TERRACE BRAY.

HALF-SIZE REPRODUCTIONS OF DISPENSING LABELS.

THE ANALYSIS OF URINE.

INTRODUCTION.

WHATEVER may be the position of British pharmacists in comparison with those of other countries, it cannot be said that they have paid the attention to the analysis of urine which the subject has received from pharmacists on the Continent. Considering the importance of the subject this curious neglect can only be attributed to the fact that the pharmacist in Great Britain is but slowly attaining the position of chemical expert to the physician which his foreign *confrère* has so long held with credit and even distinction. In France, for example, M. Méhu, whose name is familiar to readers of this journal, is looked upon as one of the leading authorities on morbid urine and its analysis, and yet a list of goodly pharmaceutical papers shows that, as the medical analyst, he has not forgotten his connection with pure pharmacy.

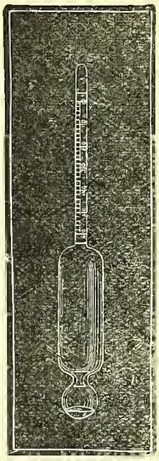
There are several points about urinary analysis which entitle it to a very high position in the estimation of pharmacists. In the first place the physician is no more likely to be fonder of the test-tube than of the pestle, of analysing urine than of compounding his own medicines. Leading men in the profession are more and more setting their faces against the dispensing doctor, and there are numbers amongst them who admit that they succeed no better as analysts than they do as dispensers.

Some old-fashioned practitioners trouble themselves very little about their patients' urine, except, perhaps, in respect of sugar and albumin. On the other hand, numbers of leading physicians, including especially those highly-educated gentlemen who cultivate a consulting practice, are in the habit of pushing urinary analysis almost to an excess. One well-known specialist of the writer's acquaintance, with an extensive West-end practice, makes quantitative determinations of the urea, uric acid, and total acidity, in addition to conducting other diagnostic experiments, on every occasion that he interviews his patients. By this means he has accumulated in his case-books a mass of data which he considers most valuable as an aid to diagnosis, and through that to successful treatment.

Pharmacists are proverbially neat-handed, as Mr. Martindale would say, and their habit of conducting dispensing operations which involve the dexterous manipulation of very small quantities of material fit them admirably to undertake volumetric and other rapid analytical determinations. Compared with the doctor there is no doubt that in this matter the chemist is *facile princeps*, and from the nature of their respective occupations such could only have been expected. A few chemists throughout the country lay themselves out to save their local doctors from unwelcome test-tube practice, and these almost to a man find it pay. Some charge a handsome fee to patients, and a small one when the analysis comes through the physician. Others find it to their interest to furnish medical men with qualitative reports on sugar or albumin gratuitously. Although this practice has certain obvious drawbacks, if a doctor sends his prescriptions to a chemist the latter is often willing to gratuitously perform his chemical work. In the present article we propose to describe briefly but fully the methods which have been found of most value in practice.

PRELIMINARY OPERATIONS.

It is the practice of some physicians to direct the patient to preserve all the urine passed in twenty-four hours, and to forward this in one bottle for analysis. Others, again, merely send a small sample of "morning" and "evening" urine in separate phials, desiring only a comparative report. In the former case the *volume* should be accurately measured, and the quantity noted either in fluid ounces or cubic centimetres before commencing the analysis. This need not be done if small samples only are received. The *colour* should be noted. It varies greatly through every shade of yellow and amber to dark brown, with a tinge of green or red, if the colouring matter of bile or blood is present. Also note relative *transparency* or *cloudiness*, *specific gravity*, and *reaction*, as all these observations are useful in diagnosis; *odour* is not quite so important. The *specific gravity* should be taken at about 60° F. in an ordinary specific-gravity bottle, or more conveniently by means of a good *urinometer*. In the latter case it is very important to have an instrument of known accuracy many of those in the market being valueless. Urinometers of glass, though fragile, are decidedly more cleanly and less liable to get out of order than the gilded brass instruments carrried in the pocket by many physicians. Mr. J. J. Hicks, of 8 Hatton Garden, E.C., manufactures a very creditable "patent urinometer" at an extremely low cost. Healthy urine has a density of from 1·015 to 1·025; but variations from this range are common.



A fair quantity of the urine, after shaking, should be placed in a tall conical glass vessel, to allow easy collection of the precipitate for subsequent microscopical examination. If an abundant amorphous deposit of a fawn or pink—from *uroërythrin*—colour slowly settles and is readily diffused, *urates* in excess can be anticipated. Their presence is proved by the readiness with which they dissolve on warming with the supernatant urine to about the temperature of the blood. No difficulty is experienced if small quantities of albumin are present, as that body is not coagulated until the temperature rises much higher. A sandy precipitate of free *uric acid* will not dissolve on warming the urine, and its identity can further be determined by means of the miscroscope, or by applying a well-known colour-reaction. A grain or so is oxidised into reddish alloxan and alloxantin by carefully evaporating with a few drops of strong nitric acid on a piece of porcelain. A little ammonia is then added, when the fine *purple* murexide stain will be produced.

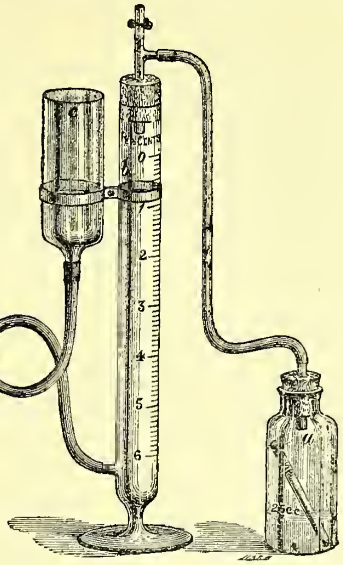
It is always advisable to mention the reaction to test-papers of all samples received. Urine is normally *acid*, but there are certain diseases which render fluid neutral or alkaline. The urea of acid urine on standing is changed by a putrefactive ferment into ammonic carbonate; but this decomposition in a state of health should not take place for at least twenty-four hours. Alkalies, or organic salts of alkaline metals, when taken as medicine render the urine alkaline, and the indication is then not of much moment; but if none of these causes exist, the condition is of serious diagnostic import. Where it is desired to determine the degree of acidity of the urine, voided, say, by a gouty patient, a dilute volumetric solution of caustic soda should be employed, using a few drops of an alcoholic solution of phenolphthaleïn as an indicator, and reporting in terms of oxalic acid. The soda solution may conveniently contain the equivalent of one milligram of recrystallised oxalic acid ($H_2C_2O_4.2H_2O$) in each cubic centimetre.

UREA.

Carbamide, as it is called by systematic chemists, or *urea*, is next to water the largest constituent of urine, and forms about one-third of its total solids. Derived from ammonic carbonate by abstracting two molecules of the elements of water, it is readily converted by putrefaction into that salt, and the urine under these circumstances becomes strongly alkaline in reaction. Earthy phosphates then fall naturally out of solution, so that the putrid fluid is always well furnished with sediment. Nitrogen that has served its purpose as muscle or other proteid leaves the animal economy chiefly in the form of urea, and its proportion in the urine, therefore, is a fair index of the activity of wasting influences.

For its determination Knop's sodic hypobromite method, on account of its convenience, is now generally preferred. The volumetric process of Liebig, which depends on the formation of an insoluble compound of urea with mercuric nitrate, possesses no advantages and is troublesome to work. The principle of the hypobromite process is simple. In a strongly alkaline solution urea is broken up by sodic hypobromite, its nitrogen being evolved in the gaseous state, and its carbon and hydrogen oxidised to carbonic anhydride and water respectively. The volume of free nitrogen obtained bears a direct ratio to the amount of urea decomposed.

Amongst the number of instruments which have been introduced for the purpose of conveniently measuring the evolved gas, that of Gerrard, an illustration of which we give, is one of the simplest, cheapest, and best. The ureometer-tube *b* is connected at the base with a movable reservoir *c*, and by means of a rubber tube passing through a cork at the top to the generating bottle *a*. To use the apparatus, fill *b* to zero with water and have the reservoir placed so high that it contains only an inch or so of the liquid. Replace the cork with attached tube tightly in *b*. Now pour into the generating bottle 25 c.c. of a solution prepared by dissolving 1 part of caustic soda in 2½ parts of distilled water, and dexterously break in the liquid a tube containing 2·2 c.c. of bromine. The tubes will be found very convenient, obviating entirely the suffocating fumes diffused in the act of measuring bromine. Allow to stand in the solution of sodic hypobromite thus prepared a test-tube containing exactly 5 c.c. of the urine under examination. Cork the bottle as shown in the illustration, see that the water is at zero, and that the liquid in the reservoir is at the same level, and then allow the urine to gradually mix with the hypobromite solution. Cool the evolved gas by placing the bottle in cold water, adjust the levels of the water in the tube and reservoir (to obviate a correction for pressure), and read off the percentage of urea in terms of which the tube is graduated. Stale urine, the urea of which has largely been converted into ammonic carbonate, still yields a very fair result, that salt being also completely split up by the powerful oxidant employed. Should the urine contain albumin it is advisable to remove it by boiling and filtering; as, although only slowly decomposed by the hypobromite solution, it communicates to the liquid such a tendency to froth that the disengagement of the nitrogen is seriously impeded. Most of those alkaloids which might possibly be present do not yield the gas when treated in this manner, and therefore may be disregarded.

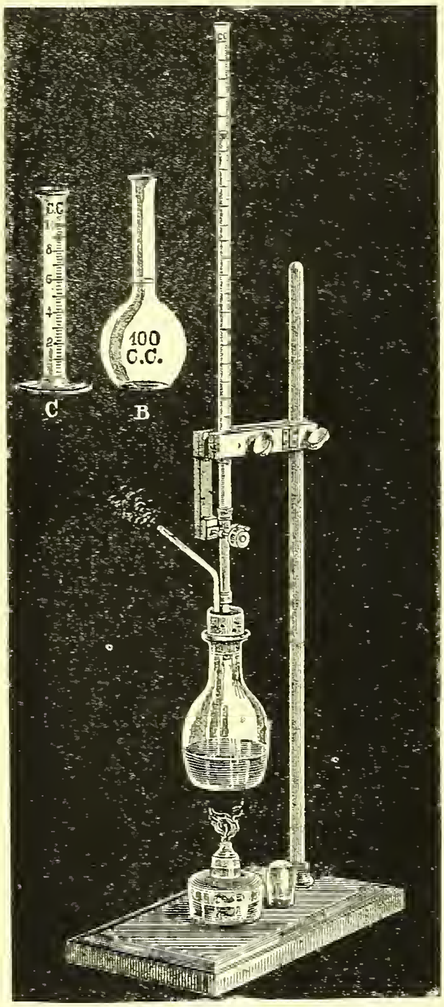


SUGAR.

Glucose, so characteristic of *diabetes mellitus*, is not difficult of detection or estimation. The facility with which it reduces alkaline cupric, argentic, bismuthous, ferric, mercuric salts, indigo, and potassic picrate and chromate solutions has been utilised for the preparation of several ready methods for its determination. Trommer's test consists in adding enough cupric sulphate to colour green, then excess of alkali, and boiling. Yellow to brick-red cuprous oxide forms as a heavy precipitate if glucose is present. The organic matter of the urine prevents the precipitation of cupric hydrate on the addition of the alkali. This test is delicate and deservedly popular. Fehling's well-known solution contains sodio-potassic tartrate, which serves the purpose chiefly of retaining the copper in solution. Unfortunately, Fehling's original solution has a tendency to become hyper-sensitive if kept long, a proneness to change that is much increased on dilution. When so altered the solution will yield a more or less copious precipitate of cuprous oxide on merely boiling, and quite independent of the presence of glucose. This decomposition is obviated by preserving the copper salt in a separate solution from the tartrate and alkali, and mixing before use. Schmiedeberg substitutes mannite, and Cresswell glycerin, for the Rochelle salt, in order to render the solution stable. Some prepared by the writer over twelve months ago, according to the suggestion of the latter physician, has since shown no signs of decomposition, and is now as good as it was then. For qualitative purposes the solution may be prepared thus:—Dissolve 35 gm. of recrystallised cupric sulphate and 200 c.c. of pure glycerin in 100 c.c. of distilled water. Dissolve separately 80 gm. of caustic soda in 400 c.c. of water. Mix the solutions and boil for a quarter of an hour. A small amount of reduction from impurity in the glycerin takes place. Allow to stand till clear, decant, and dilute to 1,250 c.c. Ten cubic centimetres will then equal roughly 5 centigrammes of glucose. For exact quantitative determination it is necessary to standardise the solution with pure anhydrous dextrose.

To a practised operator the indications yielded by the use of this test are of great value; but beginners are exceedingly liable to mistake its various reactions, and to report the urine as saccharine when normal traces only of sugar are present. The bismuth test of Böttger, as greatly improved by Nylander, is fairly delicate, and not so easily misread as Fehling's. A large volume of reagent being used with a comparatively small quantity of urine, the precipitate of earthy phosphates does not interfere in the least with the reaction. On boiling about 3 drachms of Nylander's solution and 20 minims of urine for a minute or two, the liquid darkens with a trace of sugar, and becomes opaque and black if the latter is present in quantity. The reagent is prepared by dissolving 494 grains of caustic soda, 247 grains of Rochelle salt, and 154 grains of subnitrate of bismuth (free from silver) in 13 fluid oz. of distilled water. It should be decanted for use from any sediment.

In those cases where the amount of glucose present is required to be determined, Dr. Pavy's ammonia-cupric process distances all compeers for ease of application and delicacy of end-reaction, combined with considerable accuracy. His solution differs from that of Fehling in containing ammonia, which dissolves the cuprous oxide as soon as it is formed, yielding a colourless solution. It is only necessary, therefore, to note the moment that the blue colour of the liquid is exactly discharged in order to tell when all the copper present has been reduced. Pavy's solution is prepared as follows:—Dissolve 356 grains of Rochelle salt and the same weight of caustic potash in distilled water; dissolve separately 73 grains of recrystallised cupric sulphate in more water with heat. Add the copper solution to that first prepared, and when cold add 12 fluid oz. of strong ammonia (sp. gr. 0·880), and distilled water to 40 fluid oz. The estimation is thus conducted:—Dilute 10 c.c. of the ammoniated cupric solution—equivalent to 5 milligrammes of glucose—with 20 c.c. of distilled water, and place in a 6 or 8 oz. flask. Attach this by means of a cork to the nozzle of an ordinary Mohr's burette *b*, preferably fitted with a glass stopcock, and filled previously with the diluted urine. The small tube *c*, which traverses the cork is intended to permit the escape of steam. Now raise the blue liquid in the flask to active ebullition—not too violent—by the aid of a spirit lamp or small Bunsen flame. Turn the stopcock in order to allow the urine to flow into the boiling solution at the rate of about 100 drops per minute (not more or much less) until the azure tint is exactly discharged. Then stop the flow, and note the number of cubic centimetres used. That amount of dilute urine will contain 5 milligrammes of glucose. To render the determination as accurate as possible, the urine should be diluted to such an extent that not less than 4 or more than 7 c.c. are required to decolorise the solution, and the proportions necessary will be found to vary from 1 part of urine in 2½ to 1 in 30 or 40. The subsequent calculation is very simple. If you wish to give the percentage of sugar, multiply 0·005 by 100, and divide the product by the number of cubic centimetres of dilute urine employed. The figure thus obtained, multiplied by the extent of dilution—*i. e.*, if there is 1 of urine in 10, multiply by 10—gives the required percentage. The number of grains per fluid ounce can of course be obtained by multiplying the percentage by 4·375. To observe easily the exact end-reaction a piece of white paper should be placed behind the flask. If the analyst objects to the escape of the waste ammoniacal fumes, they may be conducted by a suitable arrangement into water or dilute acid. In addition to glucose there are small quantities of other copper-reducing bodies present in all urine, which always render the reading higher than strict accuracy would demand. Their aggregate proportion, however, is, comparatively speaking, so minute that for most medical purposes their presence may be disregarded. Greater care must be exercised, though, in those instances where such a deoxidiser as chloral hydrate is accidentally present. In case of doubt, a little washed and pressed yeast should be allowed to stand with the urine for a day or two in a warm place. Alcoholic fermentation with evolution of carbonic acid gas soon sets in, and the specific gravity of the liquid is lowered considerably. This reaction points conclusively to the presence of sugar.



DR. PAVY'S APPARATUS.

Based upon Braun's potassic-picrate test, Dr. G. Johnson has devised a colorimetric process for the estimation of sugar. On boiling an alkaline solution of that salt with glucose, the former is reduced to deep red-brown picramate, the colour of the liquid, of course, varying in intensity according to the proportion of sugar present. This solution is diluted till it corresponds in tint with a ferric acetate standard, and the percentage of sugar is then readily calculated. For those who prefer this process the convenient apparatus manufactured by Mr. Cetti, of 36 Brooke Street, Holborn, is recommended, who will also furnish full particulars of the test.

ALBUMIN.

Normal urine is free from coagulable proteids, though it is admitted that albumin may sometimes occur in the absence of disease. It is always highly important, therefore, to determine accurately the presence or absence of this body. In the relentless malady named after Richard Bright, the urine always contains albumin, and if accompanied by the "casts" of the uriniferous tubules your report may amount to a sentence of certain death. The tests which we now describe are accurate and easily applied; but reliance should never be placed on any single reaction—at any rate, until the operator has acquired considerable experience.

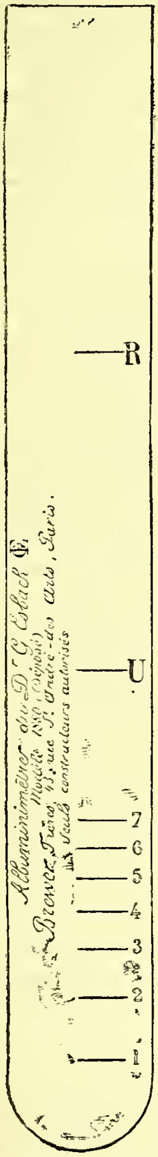
Galippe's *picric-acid test* has within the last few years attracted much attention, chiefly through the commendation it has received from Dr. George Johnson. A saturated solution is prepared by dissolving 140 grains of recrystallised picric acid (carbazotic acid, or, more correctly, trinitrophenol) in 1 pint of water with heat, and decanting the clear solution. Some of the urine is rendered perfectly bright by filtration—repeated, if necessary—through good filtering-paper, and to this an equal volume of the picric acid solution is added. In the presence of albumin a more or less distinct haze is produced, which on heating to the boiling point is rather intensified than otherwise. Peptones, if present, yield a similar haze, and quinine or other alkaloid a more or less crystalline precipitate; but in both these cases the opalescence is completely dissipated by heat. Mucin, an important constituent of some urines, is not affected by picric acid, and the test is decidedly one of great value.

The *nitric-acid test*. Heller's contact method, which can also be used with the last-described reagent, is the best mode of applying the old-fashioned and favourite test with nitric acid. To 5 volumes of a filtered saturated solution of magnesic sulphate, prepared by dissolving 10 parts of the salt in 13 parts of distilled water, add 1 volume of strong nitric acid, and label "Sir W. Roberts' nitric-acid reagent." A couple of drachms of bright filtered urine is allowed to float on an equal quantity of this solution in a test-tube; care being taken that the contact-line is sharply defined. In a period of time varying from a few seconds to a quarter of an hour, according to the amount of albumin present, a delicate opalescent zone forms at the point of junction, and if mucin also is present a more diffused haze higher up in the urine. Special attention should be given to the position of the opacity. In some concentrated urines a belt of urates will appear at the line of demarcation; but these dissolve on warming. Moreover, owing to the dilution necessary in the mode of applying Galippe's picric acid test, they are not so readily shown by the latter. A $\frac{1}{2}$-oz. glass syringe can very conveniently be substituted for a test-tube in making analyses according to Heller's method. Some of the urine should be drawn up, and then an equal volume of the reagent. On setting aside the albumin ring will rapidly develop.

The *boiling test*. This method also is very delicate and valuable. It depends on the well-known property possessed by many proteids of coagulating under the influence of heat. The urine should have an acid reaction to test-paper; if alkaline, it must be cautiously neutralised with dilute acetic acid. In either case a single drop of strong acetic acid should be added to about 3 drachms of the bright liquid. If this precaution is omitted there is danger of precipitating earthy phosphates on heating, and should a great excess of acid be employed a non-coagulable form of albumin known as syntonin is formed, besides increasing the likelihood of precipitating mucin. Place the prepared urine in a narrow test-tube and hold it in a small flame so that the upper part only of the liquid approaches the boiling point. By this means very small traces of albumin are easily observed, the opalescence produced contrasting strongly with the cold and clear fluid beneath.

The *ferrocyanide test*. Hydroferrocyanic acid yields a precipitate immediately in the presence of much albumin, and, if traces only are present, in the course of a few minutes. To apply the test, strongly acidulate with acetic acid, and then add a few drops of recently prepared potassic ferrocyanide solution. This is one of the most delicate tests known.

It is often desirable that the percentage of albumin present should be determined at frequent intervals, in order to note the success or otherwise of the physician's treatment. These quantitative determinations, being intended only for comparative purposes, do not demand any very excessive degree of accuracy, such as would be difficult to obtain in ordinary practice. The recent method of a continental worker, Dr. Esbach, affords indications sufficiently precise for therapeutical requirements, and is at the same time extremely easy of application. The filtered acid urine is poured into the glass tube up to the mark U, and then the special reagent is added till the level of the liquid stands at R. Mix the liquids thoroughly, without shaking, by reversing the tube a dozen times, close with a cork, and allow it to stand upright for twenty-four hours. The height at which the coagulum then stands, read off on the scale, will indicate the number of parts per thousand, or grammes of albumin in one litre. This divided by ten gives the percentage. Dr. Esbach's test solution is prepared by dissolving 10 grammes of picric acid and 20 grammes of citric acid in 900 c.c. of boiling distilled water, and then adding when cold sufficient water to yield 1 litre. The citric acid is only employed for the purpose of maintaining the acidity of the liquid, and is really not essential


R
U
Albuminimètre du Dr G. Esbach
Modèle 1880 (Déposé)
Brewer Frères, 43, rue St André-des Arts, Paris.
Seuls constructeurs autorisés
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Uric or Lithic Acid.

The determination of the proportion of uric acid in urine was formerly rather neglected by physicians. There is now, however, a growing tendency in a certain class of diseases to attach considerable importance to its accurate estimation, and, as some little trouble is involved, pharmacists should be prepared to undertake the work. A rough way is to concentrate somewhat, acidulate with hydrochloric acid, and collect and weigh the precipitate thrown down on standing. There are several objections, however, to this method, and many attempts have been made to elaborate a more reliable process. One of the most recent, and which has been pronounced the most practical and successful, has been devised by Professor Haycraft. Although apparently rather detailed and elaborate, the determination is easy and extremely simple.

The following solutions must be prepared:—1. Dissolve 5 grammes of nitrate of silver in 100 c.c. of distilled water, and add ammonia until the precipitate first formed redissolves. 2. Dilute strong nitric acid with about two volumes of distilled water; boil, to destroy the lower oxides of nitrogen, and preserve in the dark. 3. Dissolve about 8 grammes of ammonic thiocyanate (sulphocyanide) crystals in a litre of water, and adjust to decinormal argentic nitrate solution, by diluting till one volume is exactly equal to a volume of the latter. Dilute the solution thus prepared with nine volumes of distilled water, and label "Centinormal ammonic-thiocyanate solution." 4. A saturated solution of ferric alum. 5. Strong solution of ammonia (sp. gr. 0·880). The uric acid estimation is conducted as follows:—Place 25 per cent. of urine in a beaker with 1 gramme of sodic bicarbonate. Add 2 or 3 c.c. of strong ammonia, and then 1 or 2 c.c. of the ammoniated silver solution. If, on allowing the precipitate caused by the latter reagent to subside, a further precipitate is produced by the addition of more solution, the urine contains an iodide, and silver solution must be added till there is an excess. The gelatinous urate must now be collected, the following special procedure being necessary:—Prepare an asbestos filter by filling a 4-oz. glass funnel to about one-third with broken glass, and covering this with a bed of asbestos to about a quarter of an inch deep. This is best managed by shaking the latter in a flask with water until the fibres are thoroughly separated, and then pouring the emulsion so made in separate portions on to the broken glass. On account of the nature of the precipitate and of the filter it is necessary to use a Sprengel pump, in order to suck the liquid through. The small apparatus sold to students by chemical instrument makers will answer the purpose admirably. Having collected the precipitate of silver urate on the prepared filter, wash it repeatedly with distilled water, until the washings cease to become opalescent with a soluble chloride. Now dissolve the pure urate by washing it through the filter with a few cubic centimetres of the special nitric acid. Place in a beaker, and estimate the silver by Volhard's method, which can be employed in the presence of nitric acid. The process is carried out thus:—Add to the liquid in the beaker a few drops of the ferric-alum solution to act as an indicator, and from a burette carefully drop in centinormal ammonic thiocyanate until a permanent red coloration of ferric thiocyanate barely appears. The number of cubic centimetres used of the thiocyanate solution multiplied by 0·00168 gives the amount of uric acid in the 25 c.c. One milligramme may be added to compensate for loss, and the whole multiplied by four gives the percentage of uric acid in the urine. The whole process depends on the fact that argentic urate fails to dissolve in ammonia, but is soluble in nitric acid, and is thus easily obtained in the pure state. By determining the amount of combined silver, the percentage of uric acid can readily be calculated. The addition of sodic bicarbonate prevents the otherwise inevitable reduction of the silver salt.

Bile.

In diseases affecting the liver the urine frequently becomes contaminated with biliary constituents. If the colouring matter of bile is present (*bilirubin*, &c.) the liquid is darkened considerably in tint, and may assume various shades of brown or green. Should the colour be decided the fluid will be found to foam strongly on shaking, and white blotting-paper will be stained by it yellow or greenish. These characters point to the presence of bile in fair quantity, and it is only necessary to apply a single confirmatory test. Allow some of the urine to flow carefully, according to Heller's method, over a couple of drachms of yellow nitric acid (*i.e.* acid containing traces of the lower oxides of nitrogen). A number of rapidly changing colours soon appear, passing through green, blue, violet, and red to yellow. The first of these tints, green, is the only one that undoubtedly points to the presence of biliary colouring matter, all the others being yielded by another constituent of urine, indican, when similarly treated. Should the colour of the urine suggest the presence of only traces of bile, the best plan is not to treat the urine directly, but extract a quantity of it by shaking with chloroform. On separating the latter, and covering with yellowish nitric acid, the colour-changes will be observed penetrating into the chloroform. A little, also, evaporated on a slide yields reddish crystals, which exhibit a pretty play of colours under the microscope when touched with nitric acid.

It is not unfrequently considered important to test urine for the sodium salts of the conjugate biliary acids, taurocholic and glycocholic. Dr. Oliver, of Harrogate, has proposed the use of an acidulated peptone solution for this purpose, and the reaction is undoubtedly a good one. The reagent is prepared by dissolving 30 grains of flesh peptone, 4 grains of salicylic acid, and 30 minims of strong acetic acid, in sufficient water to produce 8 fluid oz. of solution. Thus prepared, the peptone shows no signs of decomposition on keeping. To use the test, mix 1 fluid drachm of the reagent with 20 minims of urine, previously diluted to a standard specific gravity of 1·003. A haze is produced, which will be found to be more or less distinct, according to the proportion of bile-salts present.

Chlorides.

A normal and variable constituent of urine, chlorine, is not usually required to be determined. Should the estimation be considered necessary, however, Volhard's silver process, which has been noticed in treating of uric acid, possesses several advantages over other methods: 10 c.c. of urine are diluted with 60 c.c. of distilled water. To this is added 2 c.c. of pure 70-per-cent. nitric acid, and 15 c.c. of a standard solution of silver nitrate (1 c.c. = 0·01 gramme NaCl). Shake well and make up to 100 c.c. with water. All the chlorine present will now be precipitated in the liquid as a silver salt. Filter an aliquot part (about 70 or 80 c.c.), and determine in the clear solution the excess of silver with standard ammonic thiocyanate, using the ferric alum indicator. The difference between this and the amount of silver originally present in the aliquot part has been precipitated as silver chloride ($AgCl$). The whole estimation should be conducted as rapidly as possible. A simple calculation will then give the proportion of chlorine in the dilute urine, and this multiplied by ten shows the percentage. It is usual to report in terms of $NaCl$.

PHOSPHATES.

In those cases where the pharmacist is asked to determine phosphoric acid quantitatively, the uranic-acetate method described in Sutton's "Volumetric Analysis" yields the most satisfactory results. The process requires some little experience to use it with ease, and is too lengthy for quotation here.

MICROSCOPICAL EXAMINATION.

A good microscope is one of the first necessaries of the urinary analyst. By its aid it is possible to distinguish easily many solid constituents of urine—normal and pathological; indeed, the examination of urinary deposits is often quite as important as the more elaborate wet analysis. A well-made instrument is no luxury to the pharmacist; but even those whose chief aim is *bon marché* can procure capital students' microscopes at an exceedingly low cost. One of the cheapest, and at the same time an instrument of good quality, is the "Star," manufactured by Messrs. R. & J. Beck, of 31 Cornhill, E.C.

Equipped with a good microscope, the analyst should obtain a fair supply of typical slides for comparison. The following selection will be found sufficient for his purpose:—A set of the chief varieties of uric acid, calcic oxalate, and triple phosphate; the urates and oxalurates; urea nitrate, calcic hippurate, and carbonate, hippuric acid, cystin, well mounted "casts" of the *tubuli uriniferi*, spermatoza, &c. In doubtful cases microchemical reagents can be employed, using Professor Attfield's "Chemistry" as a guide. Where mounted objects are not at hand, reference may be made to the capitally-executed plates in that work. After obtaining a little experience in the use of the microscope, no difficulty will be met with in these examinations.

DROPS AND MINIMS.

THERE is no fixed relation between the specific gravities of various liquids and the number of drops required to form 60 minims. After numerous experiments Quincke, of Berlin, found that "drops vary according to the chemical composition of the liquids." This is so far true, but Quincke does not seem to have been aware that the same liquid may give different-sized drops, for not only do the sizes of drops of different liquids differ, but drops of the same liquid vary very much according to the shape of the vessel from which they are dropped. Drops from a half-ounce phial, for instance, differ in size from those dropped from a forty-ounce hand bottle, and drops from a lipped phial differ from those dropped from a phial without a lip. Bearing this fact in mind, it becomes highly important in the case of patients taking such potent preparations as tincture of strophanthus or Fowler's solution that the doses which they take should have some degree of constancy. The following illustrations of the variability of the size of drops of the same fluid are taken from a paper communicated to the Edinburgh Chemists' Assistants' Association by Mr. C. F. Henry:—"Tinct. opii dropped from the lip of a one-ounce phial when full required 130 drops to equal 1 drachm, but this when dropped back again from the minim measure divided itself into only 114. No donbt the forces of cohesion and adhesion have not a little to do with regulating the sizes of drops. This is further shown by the fact that the quantity of liquid in the bottle affects the size of the drops. When a bottle is full smaller drops are produced than when a bottle is half full, and the size of the drop increases as you empty the bottle. For instance, 136 drops were required to form 60 minims of tincture of opium when dropped from a full one-ounce lipped vial. When three quarters full 130 drops equalled 60 minims, when half full 126, and when only ʒj. remained in the phial it consisted of 114, so that the number of drops decreasing, their size consequently increased. Again, liquor arsenicalis from a half-ounce phial gave 71 drops to the drachm when full, 68 when half full, and 62 when quarter full.

"The United States Dispensatory, fifteenth edition, also states this fact, but Professor Heines, in a paper written in 1883, emphatically contradicts it, and states that the 'drops diminish in size as the bottle is emptied.' The foregoing experiments, however, go to show that the Dispensatory is right. This fact of drops increasing in size as the bottle is emptied reveals a curious provision of nature for the benefit of humanity. It is well known that the effect of a medicine on the system becomes less potent the more a person is accustomed to its use, and so, as a patient gradually empties his bottle of drops the size of these drops gradually increases. Although it does not seem to have attracted much previous notice, it is nevertheless the case that the more quickly or slowly a liquid is dropped, the size of the drop is proportionately affected. The faster a liquid is dropped the larger are the drops. The practical importance of remembering the relation which drops bear to minims must be obvious to all, especially as no fixed or defined relation can be said to exist. Take, for instance, tincture of strophanthus, a very potent drug. A London wholesale house label this tincture with the dose as 2 to 10 drops, while an Edinburgh house more correctly state the dose in minims, and give it as from 4 to 8. On dropping tincture of strophanthus from a half-ounce phial, 138 drops from an ordinary phial, and 120 from a lipped phial were found to equal 1 drachm of the tincture.

"Taking the latter as the equivalent, viz. 2 drops to each minim of the tincture, we have the dose stated by the London firm as 1 to 5 minims, while the Edinburgh firm fixes it as 4 to 8—too great a difference in such a potent remedy.

"That medical men also confuse minims with drops could be easily shown by a glance over any prescription-book. No less an authority than the *Lancet* seems to consider that minims and drops are equivalents. In its issue of March 26, 1887, in a notice of the tincture of strophanthus of the London drug house whose label, before referred to, states the dose as from 2 to 10 drops, the *Lancet* substitutes 2 to 10 minims as the dose, under the impression that there is no difference between them.

"Fortunately the minim in almost every case being larger, the error in imagining that a drop is a minim is always made in prescriptions on the safe side, viz. in prescribing a dose which is either a minimum dose or below it. If it were otherwise, the consequences might be serious."

The *Canadian Pharmaceutical Journal*, in recently discussing "the dose of laudanum" as set forth in the ordinary label giving doses for various ages, says:—One grain of opium, or its equivalent in other compounds, has been almost universally accepted by the profession and the domestic practitioner as representing a fair average dose for an adult, and this is represented by about 15 minims of the tincture. To find the number of drops corresponding to this quantity is a matter of difficulty. A fluid-drachm of laudanum has been found to yield from 50 to 147 drops, but, taking the results of the experiments of ten writers, the average number of drops to the drachm is 105, so that 25 drops may be recognised, and in fact is accepted by most parties, as an average dose.

GERMAN MIRROR AMALGAM contains 83·5 per cent. of tin and 16·5 per cent. of mercury.

THE yellow and brown colour acquired by some papers is due to oxidation of the resin used in sizing the paper. Paper containing wood pulp also turns brown very readily.

DR. FINKLER has communicated a paper to the *Lancet* on comparative experiments between the action of papain (Finkler) and pepsine, in which he shows that the vegetable ferment is a more active peptonising agent than the pepsine which he employed ("a pepsine of known best quality"). The experiments were made with raw meat and hard-boiled white of egg. Amongst the facts which Dr. Finkler's experiments convey are that digestion takes place best in a maximum amount of fluid, and that the time during which papain digestion takes place is practically unlimited—that is to say, it goes on in the intestines as well as in the stomach. The paper is reprinted elsewhere in this issue.

POPPY CULTURE IN AXHOLME.

In a recent public examination the question was asked, "In what part of the world is the Isle of Axholme situated?" After some little hesitation the candidate replied, "I believe, sir, in the South Pacific Ocean." This was perhaps rather a wilder guess than is usually hazarded even in the examination room. Yet how few Englishmen are there, comparatively, whose knowledge of this corner of their own land extends much beyond some slight familiarity with the name! Nevertheless, there are special characteristics of Axholme well worth the attention of all intelligent people, and especially of the botanist and the student of agriculture. To the political economist the extensive application of the allotment system is full of interest, and the formation and flora of its numerous "Turbaries"* present a wide field of study to the lover of the natural sciences.

The length of the island is about eighteen miles, with an average breadth of from five to six miles. It consists of that portion of Lincolnshire which is situated between the rivers Trent, Idle, and Don. Dugdale, in his "History of Embanking," speaks of Axholme as having once been a thickly-wooded district, and this was amply confirmed when the present drainage of the island was undertaken. Tradition teaches that the forest was purposely destroyed by fire to facilitate the extermination of bands of the British who had taken refuge in it from the Roman armies. This is most likely true. At a depth varying from 2 to 5 feet below the present surface the trunks of immense trees are found still bearing distinct traces of fire. They are principally of coniferous origin, and are sufficiently numerous to supply the whole district with firewood of the very best quality. The sudden destruction of this extensive forest probably had the effect of at least partially damming the two smaller rivers, and converting the greater part of the district into an immense bog. In the reign of Charles I. the drainage of this low land was entrusted to Vermuyden, a Dutch engineer. The king, into whose hands it had lapsed as feudal superior, agreed to give up to Vermuyden the absolute ownership of one-third of all the land reclaimed, upon condition that the whole should be drained at Vermuyden's expense. This was effected at a cost of 55,825*l*. To carry out the work about two hundred families were brought over from Holland, some of these being French folk who had been driven from their own country by religious persecution. A good many of these foreigners returned to Holland after the work was completed, but sufficient remained to give a permanently distinctive character to the appearance and accent of the country people. It will be readily understood that land formed in the manner described would be extremely rich in quality. Upon the remains of the forest the accumulated drift of centuries has produced soil of a richness not to be surpassed in any part of England.

The chief interest of the island, however, lies in the fact that *la petite culture* is carried on here on the most extensive scale. There are something like 20,000 acres of upland in the isle, and a great part of this consists of open field. These open fields are divided into hundreds of small holdings, many of them not more than ten yards wide, and varying in length from one hundred yards to half a mile or more. Very frequently these holdings are not only occupied by different tenants, but actually are the property of different owners. There is no fence of any kind to separate one from the other, not even a strip of grass nor a stone to mark the boundary. They are, as a rule, cultivated with the most scrupulous care, the owner with his wife and family doing the greater part of the work. These small allotments are not adapted to the use of modern agricultural machinery, and hence their cultivation acquires more and more every year the character rather of the market garden than of the farm. Linseed is extensively grown on the larger farms, and sent principally to the crushers and cake merchants of Hull. A field of "line," as it is called here, has a striking appearance when the flowers are fully expanded.

The cultivation of the poppy has been carried on in the Isle for many years, and has greatly increased in importance since the price of cereals has undergone such a serious depreciation. The usual practice is to take a crop of poppies after wheat, oats, or barley. The stubble is removed and burned, and the land manured and ploughed in the autumn. When practicable the whole of the preparation for the ensuing crop should be effected before winter sets in. This ensures a fine seed-bed in the spring, a very essential matter with all small seeds, and obviates the necessity of trampling the land at the time of sowing. The seedtime is determined to a considerable extent by the character of the weather and the condition of the land. Other things being favourable, the latter end of March is, perhaps, as suitable a time as any for putting in the seed. If the young plants are too early above ground there is danger from frost, and if they are late, and dry weather should set in before they have acquired a thorough hold of the ground, their growth will be stopped, and the capsule become permanently dwarfed. It is between this Scylla and Charybdis that the prudent poppy-grower has to steer. About 1 lb. of seed is usually allowed per acre, and the best way of depositing this is by means of an ordinary corn-drill, the pipes being arranged so that the rows will have a uniform distance of twelve inches. If the land is in a proper state of fineness nothing more than a light roller will be required to cover the seed. When the young plants have reached a height of 3 or 4 inches they are cut into bunches with the hoe at a distance of from 6 to 9 inches from each other, and these bunches are afterwards "singled" down to one plant, the strongest and most promising being left. This is light work, and is done generally by women and children. After the singling is completed little more beyond weeding requires to be done until the capsules are ripe. A top-dressing of soot or some chemical manure should be applied if want of further support is indicated. On the deep and humid soil of the marshes soot is the favourite stimulant, and will often produce astonishing results, weakly plants acquiring in a week or two from its application that almost emerald greenness of colour and excessive development of parenchyma which the poppy-grower has learned to associate with a well-developed capsule. Of the chemical manures, nitrate of soda and the phosphates are most useful in relation to the specific character of the soil. Poppy plants being of a succulent nature require a liberal amount of moisture, especially during the first two months of their growth. It is not, however, until their growth is completed that the most critical stage in poppy culture is reached. During ripening a week's rain, or even a few nights' heavy dew, will ruin the colour of the heads and render them almost unsaleable. Many poppy-growers hold that a heavy dew is more to be dreaded than rain itself; raindrops will to a certain extent rebound, but persistent and heavy fogs, such as are by no means rare in the Eastern counties in the fall of the year, are particularly inimical to a good colour. The depression beneath the stigma collects and retains moisture, and is always the point first attacked. Two years ago, during a very wet poppy harvest, an enterprising grower in the Isle adopted the plan of partly breaking the stem just below the head, thus inverting the capsule and presenting the lower and rounded surface to the rain. This gave the best results, and will no doubt be generally followed in wet seasons. High winds are almost as much to be dreaded as rain and fog. It is, however, before the ripening process commences that they inflict the greatest amount of damage; if the heads are bruised when gorged with moisture, no amount of sun will compensate for the harm done. As a rule the capsules are not all ready for harvesting at the same time. They are gathered as they ripen by women and children, who pass down the rows breaking off the ripe heads, which are placed in a basket carried on the arm, or in a wallet hanging over the shoulder by a leather strap. These are emptied into large sacks, and taken directly to the drying floors. Artificial heat for drying is never used in Axholme. The heads are simply spread in a thin layer on boarded floors, and turned over every day until dry enough for sale. This is effected by walking up and down the floor, "shuffling" the feet so as to move the whole of the heads without risk of crushing them, and to prevent the loss of seed which results from turning with the shovel. These warehouses are provided with numerous windows, and are efficiently ventilated. In an ordinary season, assuming that the capsules have been judiciously gathered, a fortnight's time will be sufficient on the drying-floor, and nothing more remains but to find a customer. This is not often a difficult matter if the heads are large and the colour good; the small heads with all discoloured ones are difficult to dispose of. Recently the practice of thinner sowing and a wider recognition of the principle of the survival of the fittest have been acted upon, and are steps in the right direction. Heavier manuring might also be resorted to. A curious feature in poppy culture is the specific influence exerted by different soils on the colour and shape of the matured capsule. The finest crop of poppies grown last season in the Isle is still unsold and unsaleable, owing to extreme darkness of colour, and this was ripened and gathered in perfect weather. Certain fields are well known to invariably produce heads of poor colour independently of atmospheric conditions. Poverty of soil also tends to produce an elongated capsule as opposed to a globular one, without reference to the variety of seed used.

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* *Turbary*—perhaps from Fr. "Tourbe" = turf—a place where turf is dug. The two principal turbaries in the Isle are situated respectively at Epworth and Haxey, and certain of the householders of these two places have the right of carting away turf for their own use.

On the whole the poppy crop is a precarious one to grow, but there is always the chance that a large profit may be realised. The outlay in seed is small, and the labour required by the crop so light that women and children can supply it easily. On the other hand the most assiduous care on the grower's part will not altogether avail against the effect of unsuitable weather; still attention and intelligence have their proper reward in poppy-growing as in every other calling. Especially is frequent turning on the drying-floor necessary; many samples are greatly lessened in value by neglect of this. It is also important that the heads should be gathered when perfectly dry; careful growers will not gather in the early morning nor when the evening dews begin to fall.

LIMITED COMPANIES AND PHARMACY.

THE effect of the judgment [in the case of the Pharmaceutical Society *v.* the Leith Depôt (Limited), says the *Scotsman*] is that persons who are not qualified under the Pharmacy Act may form a company, and may sell medicines, provided always that the person employed by the company for the dispensing of medicines is a duly-qualified chemist. [It is not correct to say that the employment for a qualified assistant is a necessary condition. The court only ruled that unqualified persons may as a company call themselves "chemists and druggists."] The decision is one of considerable importance. In the first place, it is in the highet degree undesirable that any real security for the genuineness and quality of medicines should be relaxed. In the next place, it is for the public interest, and especially for the interest of the comparatively poor, that medicines should not be dearer than is really necessary. The decision is calculated to promote the cheapening of drugs, and in that point of view is unquestionably a public gain. Does it dangerously relax any security the public possesses for the genuineness of the drugs supplied to it? There is no good reason to fear any such effect. No company can dispense medicines except by the hands of duly-qualified employés; and there seems to be no more ground for fearing carelessness or ignorance on the part of such employés than on the part of the assistants or apprentices of a qualified chemist. The former are themselves liable for the consequences of any mistakes they may make, and the company employing them is liable to loss of reputation and custom should such mistakes occur. On the other hand, there are few persons, and certianly few heads of families, who will not be inclined to concur in the view of this matter so forcibly expressed by Lord Young. The dispensing of drugs has been so much in the nature of a monopoly that druggists have been able to keep up prices in a way which, in the case of many of the articles they vend, can hardly be defended except from the point of view of their own self-interest. There is reason to suspect that druggists' selling prices bear very often little relation to the cost of production, but have become fixed according to some principle which is not capable of satisfactory explanation. What is at least certain is, that a company such as the Leith Depôt Company can sell many medicines, and sell them profitably, at a very much lower price than that at which they can be bought from the ordinary chemist. It will, therefore, seem to most persons that such companies, instead of being placed under disabilities, deserve to be encouraged.

THE CHEMISTRY OF STROPHANTHUS.

By Professor T. R. Fraser, F.R.S.

THE author has now made a complete chemical examination of the various parts of *Strophanthus hispidus*, and has given a brief account of his results to the Royal Society of Edinburgh. The paper is printed in the *British Medical Journal* of July 23. It will be recollected that Professor Fraser, in his first (1870) accounts of strophanthus, stated that its active principle was a crystallisable glucoside—strophanthin. Hardy and Gallois a few years, later, also separated a crystalline body from the seeds, which they took to be strophanthin, but they were unable to confirm Fraser's statement that it is a glucoside. Lately various chemists have examined the seeds, and have failed to obtain strophanthin in a crystalline form. Professor Fraser's paper explains why this is so. The seeds which he first examined, also those obtained from Mr. Buchanan, of Blantyre, in 1881, yielded crystallised strophanthin; but from "seeds obtained from Mr. Buchanan in 1885, and also from seeds liberally placed at his disposal by Mr. Moir and by Messrs. Burroughs & Wellcome last year, he failed to obtain an equally definite crystalline body." The crystals formerly obtained were re-examined, and were found to be resolvable by acetate of lead into an active glucoside and a peculiar acid, for which the term *Kombic acid* is suggested. The following is the method for preparing pure strophanthin:—

Starting with the product obtained in the earlier process, it is dissolved in water, tannic acid is added, the tannate is digested with recently precipitated oxide of lead, and then with rectified and proof spirit. The extract obtained is dissolved in a small quantity of rectified spirit, and the solution is precipitated by ether. The precipitate is finally dissolved in weak alcohol, and through this solution carbonic acid gas is passed for several hours, by which means lead is completely got rid of. After filtration the solution is evaporated at a low temperature and the residue dried *in vacuo* over sulphuric acid. The residue, which is strophanthin, becomes white, and does not crystallise perfectly. It is neutral or faintly acid, quite soluble in water, slightly in rectified spirit, and insoluble in ether and chloroform. The average of several combustions gave the following percentage composition:—

$$\left.\begin{array}{r} C = 55{\cdot}976 \\ H = 7{\cdot}754 \\ O = 36{\cdot}283 \end{array}\right\} = C_{20}H_{34}O_{10}$$

The following are the most characteristic colour reactions of the substance:—Strong sulphuric acid produces a bright green colour, which soon becomes greenish-yellow and brown; sulphuric acid and bichromate of potash, in addition to the changes produced by sulphuric acid, a blue colour; phosphomolybdic acid, after contact for a few hours, a bluish-green, which, on the addition of a few drops of water, becomes pure blue; nitric and hydrochloric acid, and caustic potash, ammonia, and other alkalies, all give yellowish colorations. With a 1 per cent. solution in water, phosphomolybdic acid causes, somewhat slowly, a bright green colour, which after prolonged contact becomes greenish-blue; nitrate of silver, a reddish-brown colour and a slight dark precipitate; and tannic acid an abundant white precipitate, soluble in excess both of strophanthin and of tannic acid. Nearly all acid reagents cause the solution to become slightly hazy, and it is then found that the solution contains glucose. This decomposition is also produced by sulphuretted hydrogen, more distinctly and rapidly after gentle heating, and for this reason it is not advisable to use sulphuretted hydrogen in any process for preparing strophanthin.

The change last noted appears to be caused by all mineral acids except carbonic acid, and by some organic acids. Even a solution of strophanthin is changed in the course of a few hours by as little as 1·5 per cent. of sulphuric acid. There separates a crystalline substance (strophanthidin), which Hardy and Gallois mistook for strophanthin. The decomposition takes some time to complete, and is accompanied by liberation of glucose, the presence of which in the decomposed solution was proved by fermentation with yeast, as well as by other methods.

CONSULS' REPORTS.

BRAZIL.

Pharmaceutical Imports. During the financial year 1885-86 the imports of chemical and pharmaceutical products into the port of Ceará amounted to 23,961 reis value, of which 13,412 reis were received from the United Kingdom, the rest from the continent of Europe. The port of Pernambuco imported in 1885 36,412*l.* worth of chemical products, and in 1886 40,775*l.* worth.

BULGARIA.

Otto of Rose. The value of otto of rose exported from Eastern Roumelia in 1886 seems to be exaggerated in the official returns, which place the quantity at 7,000 lbs., value 75,000*l.*, in 1886, against 6,500 lbs., value 60,000*l.*, in 1885. Perhaps 60,000*l.* more nearly represents the true figures, the more so as the plantation of roses made some years since by the Mussulman refugees at Bourgas and elsewhere is said to be now able to supply a proportion of the European demand for this article.

Drug Imports. English imported goods are mostly articles of the first necessity, which are not likely to be undersold by foreign importers, and include drugs and dyes. In these articles the demand has been considerably in advance of that obtaining in 1885, and still more of that of 1884. Turkish imports, though relatively greater than those of the year 1885, have in reality very much fallen off, owing to the import duty of 8 per cent. *ad valorem* imposed on them since June of last year. Austria is making rapid strides, and at her present rate will soon compete with England in the value of her imports.

CHINA.

Wenchow Imports. Among the imports into Wenchow in 1886 are the following articles (the figures in the last column denote the increase or decrease as compared with the average of the three years preceding):—

Opium	Piculs ..	25·00	– 62 p. c.
China root..	„ ..	105·18	+ 1 „
Dyes, foreign	Value ..	£575	+ 3½ „
Dye-stuffs	Piculs ..	236·96	+ 51 „
Medicines	„ ..	1,724·91	+ 33 „
Oil, kerosene	Gallons ..	161,150·00	+ 210 „
Pepper, black	Piculs ..	37·27	– 7 „
Safflower	„ ..	16·03	+ 8 „
Sapanwood	„ ..	691·81	+ 20 „
Varnish	„ ..	192·97	+ 23 „
Vermilion	„ ..	16·43	– 28 „
Wax, white	„ ..	118·59	– 1 „

Pushing British Drugs. A large British firm of chemists and druggists at Hong-Kong have a Chinese retail shop in Swatow, and an agent in Ch'ao-chow-foo, the prefectural city, thirty miles away. They sell a large variety of patent drugs, prepared by themselves, such as worm tablets, anti-opium pills, remedies for dysentery, quinine, plasters, &c., besides fancy soaps and perfumery. All these are made up with gaudy Chinese labels, descriptive of contents, effects, doses, and so on. Advertising by means of posters is freely carried on. From one of these now before me, I learn that the enterprising firm in question have in all some twenty similar shops, not only at the Treaty Ports, but at Nanking, Hangchow, Soochow, and Fatshan, and that catalogues in book form of the drugs and their uses are freely circulated.

Dye-stuffs. The imports of dye-stuffs into the Chinese port of Chin-Kiang increased from 244,245 bottles in 1885 to 271,139 in 1886. Foreign dyes are displacing native for dyeing silk and the finer kinds of cloth. They cost 6*l.* a case of 250 bottles, whilst 133 lbs. of native can only be bought for the same sum. The foreign article can also dye a greater number of pieces than native, but the Chinese dyes stand washing better, and do not fade. Indigo is being grown in the neighbourhood of Chin-Kiang in increasing quantities, but the growers complain of the competition they have to endure from foreign bottles, reducing their profits and underselling their blue. Dealers in native dyes say on the other hand their business is as large as ever, but is confined more than was formerly the case to coarse foreign cloth and to native cloth; the quantity of these kinds of cloth sold increases, however, from year to year. Dyes come from Germany from Messrs. Lembke, Gipperich, Baumwaldt, and from Offenbach, the latter being the best.

Chinese Varnish. The imports of varnish into Chin-Kiang have increased from 165,000 lbs. in 1885 to 181,000 lbs. in 1886. This varnish comes from the Chinese provinces of Yün-nan, Kuei-chow, Sin-chuan, and Shensi, and is shipped on board steamers at Ichang and Hankow, being conveyed there in wheelbarrows to save time, freshness being of importance. After being kept for a year it becomes so liquid as to be useless for varnishing purposes, and will not dry; it costs 46*s.* at the place of production, and 180*s.* to 190*s.* per picul at Chin-Kiang. The trees producing it are pierced at the thick ends of the branches, but not on the trunk, to prevent injury to the tree. About 1⅓ lb. exudes in the course of two days. The natural colour is dark; but it is mixed with oil to lighten it. It is much used to lacquer shop-signs, furniture ornaments, insides of houses, &c.; the increase this year is due to the extension of building operations. Wood oil also is largely in request for varnishing boats, houses, &c.

Safflower and Vegetable Tallow. The best safflower comes from Sui-chuan, and an inferior kind from the Ho-hau province, the price being from 7*l.* 11*s.* to 5*l.* a picul. It is used for dyeing purposes. Its supremacy is threatened by cheap foreign dyes, but their colours are neither so brilliant nor so lasting. Vegetable tallow is now only used for candles burnt in temples, and for dips in common use on board of boats, kerosene oil having supplanted it. Traders are now chary of dealing in it, and though the business has been large in 1885 and 1886, it has been the reverse of profitable, and is likely to decrease year by year.

FRANCE.

Corsican Industries. At Bastia, on the island of Corsica, large works have been erected for the manufacture of tanning extract from the wood of the chestnut trees, and very excellent quality is produced, most of which finds a market in England, the total exports in 1886 being 390 tons. Sulphide of antimony is successfully worked in two small mines in the Cap Corse, owned and worked by Corsicans; their production might be much increased with more skilled management. An English company are also erecting sulphuric acid works, but the building of these has been greatly delayed through local opposition. Large quantities of mineral water (1,195 tons in 1886) are annually shipped from Corsica to France.

GERMANY.

The Frankfort o-M. Drug Trade. The prices of nearly all pharmaceutical articles on the Frankfort-o-M. market declined without interruption till September, 1886, and the decided improvement which then set in was principally due to a more active demand. The low price of many articles procured them a sale in new districts, and a fresh impulse was also given by a conference of the manufacturers, held for the purpose of establishing a conformity in production and sale-prices.

After a lapse of many years, during which the chemical industry had to struggle for sales, an improvement seems to have set in last year, most of the articles selling well, and obtaining even higher prices, as potash, prussiate of potash, borax, blue vitriol, spirits of sal-ammoniac, &c. The import of most British chemicals fell off seriously, caustic soda declining from 2,621 tons in 1885 to 1,645 in 1886, soda ash from 1,566 to 1,079 tons, soda crystals from 5,538 to 894 tons, and chloride of lime from 5,096 to 508 tons. On the other hand, the imports of ammonia sulphate from Great Britain rose from 25,170 tons in 1885 to 28,270 in 1886, cinchona bark from 2,373 tons to 3,170 tons, chromate of potash from 571 to 853 tons, and dyewoods from 2,067 to 2,679 tons.

The rise in the price of chlorate of potash which set in early in 1886, continued throughout the year; it appears that English manufacturers possess the power of regulating prices for this article, as well as for chloride of lime, as the rise in the latter, for which the condition of the market did not show any valid reason, was not at all objected to by German manufacturers, but, on the contrary, met with their full approval.

Iceland Moss and Honey. Reports from the Riesengebirge on the Rhine state that the gathering of Iceland moss is no longer allowed, or at least considerably limited, through new forest regulations; higher prices are therefore expected.

The raising of the duty on foreign honey (from 3 marks to 20 marks) created lively transactions up to the date of the new tariff coming into force, and better prices were paid in consequence, but after a plentiful supply the market got quiet again.

Mineral Waters. The export of mineral waters from Frankfort-o-M. to England decreased from 30,888 double cwt. in the year 1885 to 23,333 double cwt. in 1886.

Morocco.

Olive Oil. In 1886 there was a large increase in the shipments of olive oil from Mogador, as compared with the preceding year, the quantity shipped in 1886 being 4,624 tons, estimated at 143,324*l*, of which England took 94,484*l*, and France 48,840*l*.

This value is more than 64,000*l*. in excess of that of 1885, while, in 1884, when the long-dormant trade had barely begun to revive, the value was only 70*l*.

It is worthy of mention that, in the beginning of 1886, it was publicly announced that his Shereefian Majesty the Sultan had about 660 tons of old oil at the city of Morocco; and the merchants of the various ports were invited to make offers for the purchase of the same at that city, to be shipped at Mogador or Mazagan, transport to the coast being at the charge of the purchaser. Difficulties of transport and other causes seem to have hitherto prevented any bargain being made.

Orchella Weed and Orris Root. The trade in two small articles, orchella weed and orris root, may be noticed as reviving, they contributing 50*l*. and 36*l*. respectively to the export list, whereas none is shown in the returns of 1885.

Prohibition of Narcotics. In February, 1887, the Sultan of Morocco issued an edict, which was read aloud in the principal mosques of his towns, and communicated to European residents through the foreign representatives, to the effect that, considering the spreading habit of consuming tobacco and other narcotics to be sinful and injurious, his Majesty forbade, to his Mahommedan subjects, the cultivation, importation, sale, and use of tobacco in all its forms, opium, guaza (*Cannabis sativa*), and similar herbs or drugs; and ordered that all stocks of such obnoxious articles should be burned, and that they should be absolutely prohibited and deemed contraband in future, when found for sale in the possession of any person whatever. Huge bonfires of tobacco and guaza, at Mogador and elsewhere, promptly followed the Shereefian edict, which was received with much dissatisfaction, and does not, apparently, seem to have been entirely successful in suppressing the use of narcotics.

Aërated Drinks. A British firm, Messrs. W. S. Irvine & Co., in 1886 commenced the manufacture of aërated waters, such as soda, lemonade, and ginger, at Mogador. These works, which are said to turn out a very good product, are the only ones of the kind in Morocco.

Drug Exports. The port of Mogador exported, in 1886, 16,168*l*. worth of beeswax, against 6,200*l*. in 1885; 4,230*l*. brown acacia gum (all going to England), and 15,336*l*. sandarac, against 20,265*l*. of these two articles together in 1885; and 143,324*l*. olive oil, against 79,037*l*. in 1885. From Mazagan 2,029*l*. worth of wax was shipped in 1886, and 3,157*l*. in 1885; from Daral-Baida 2,230*l*., against 2,535*l*.; and from Saffi 1,150*l*., against 1,350*l*. worth. The latter port also shipped 1,200*l*. worth of cumin seed, while the Dar-al-Caida exports included a value of 4,861*l*. in fenugreek seed in 1886, and 2,625*l*. in 1885.

Russia.

Polish Industries. Among the principal Polish industries are named: soap and candle making (tallow and stearine), dye, colour, and chemical manufacturing works, resin, turpentine, and varnish works, vinegar works, and manufactories of cosmetics. Most of these works are situated at Lodz.

Spirit Distilleries. Spirit distilling is the most important and flourishing of the minor Polish industries. According to the last official statistics published, there were in the year 1884 345 spirit distilleries in Poland, employing 2,327 hands, and producing about 22,000,000r. worth of spirits per annum. In the first six months of the year 1886 the spirits exported amounted to 3,453,000 gallons. Of the whole quantity of raw spirits produced in Poland, only about 5 per cent. is consumed in the country, the rest being exported principally to Hamburg, whence a great deal finds its way to Great Britain. There has been an overproduction during the last few years also in this branch, and the Government tries to improve the situation of distillers by granting drawbacks of 3 per cent. and 6 per cent. of the excise duty on refined and double refined respectively when exported.

Servia.

Pharmaceutical Imports. The bulk of the Servian pharmaceutical imports, drugs, chemicals, and colours, is drawn from Austria. Some chemicals also are taken from Germany, and "apothecaries' wares" are obtained from England.

Turkey in Asia.

Jaffa Exports. The port of Jaffa, in 1886, exported 65,000 lbs. of colocynth, against 27,500 lbs. in 1885; but the shipments of liquorice-root fell from 620 tons to 250 tons, as the low price ruling in Europe discouraged merchants from exporting the article.

Smyrna Trade. British trade with Smyrna continues to decline, the total value in 1886, as compared with 1885, showing a diminution of 32,238*l*., or about 1¼ per cent.; but this is entirely due to a falling-off in exports from Smyrna, as the imports from the United Kingdom increased 20 per cent. over 1885.

Sponges, though they figure in the returns to the tune of 107,400*l*. exported in 1886, against 100,000*l*. the year before, are no longer shipped from Smyrna itself, but from the islands of Rhodes, Sirni, and Calymnos.

Liquorice. The export of liquorice-root from Smyrna has been checked by large shipments from Syria, and the value has fallen to 10*l*. the bale. The entire export is taken by the United States, but liquorice-paste, of which 26,000*l*. worth was shipped in 1886, is consumed wholly in Europe. The shipments were reduced some 26 per cent. in quantity during 1886, but prices rose to 4*l*. 10*s*. the case.

Opium. The opium exports from Smyrna were 3,887 cases (value 395,502*l*.) in 1886, against 4,078 cases (value 358,864*l*.) in 1885. Unusually high prices ruled during 1886, the average reaching 101*l*. 15*s*. the case. More than half the export crossed the Atlantic; Holland took 820 cases for consumption in Java, and 232 cases only were sent to the United Kingdom.

United States.

The Petroleum Industry. In 1886 there was a marked increase in the production of petroleum in the United States, but a steady decline in all the old reliable districts; a large increase in field operations, a material increase in domestic and foreign consumption, and necessarily a larger export of crude as well as refined oil than has ever been recorded in the history of the trade.

The grave feature of the American oil industry is that the yield of the old Bradford (Pennsylvania) district, long regarded as the mainstay of the industry, where the production in one day, August 31, 1881, reached 81,000 barrels, has greatly declined, and now produces only 25,000 barrels per day. The Alleghany (Pennsylvania) district, showing in 1882 24,000 barrels per day, now yields but 5,000 barrels per day. These two districts have been the chief producers, and their rapid decline causes apprehension, and seems to foreshadow a further general decrease in the production so far as the present available sources of supply are concerned. The domestic consumption of petroleum was at least 8 per cent. greater in 1886 than it was in 1885. The exports for the year 1886 show an increase of 5 per cent. over the previous year, especially to the East Indies, India and Siam, and South America; but the shipments to China and Japan have fallen off. Holland, Norway, and Sweden have increased their consumption, while Great Britain, Germany, Denmark, and Austria have taken less.

Medical Gleanings.

ERGOTIN IN BRONCHITIS.

AT a recent meeting of the Leeds and West Riding Medico-Chirurgical Society, Dr. Allan stated that he had found ergotin very useful in cough. It was especially useful when the cough was violent and persistent in either bronchitis or phthisis, given as a nightly draught in doses of 10 to 20 grains. He had not seen any disadvantages connected with it, but he had found it of less use when the patients were in a very feverish condition.

LEAD-POISONING IN A CAT.

DR. E. M. HALE reports in the *Hahnemannian Monthly* a case of lead-poisoning in a cat. The animal showed all the symptoms of plumbism, such as severe colic and weakness of the limbs. He prescribed for it 5 grains of alum in as many dessertspoonfuls of cream, which was given to it by the child whose pet it was. In a few days the cat retained not only the cream, but spoonfuls of broth, beef-tea, and milk. In a week the colic paroxysms grew less acute, and less frequent. Then the bowels began to move every day. The eyes and skin showed an improved appearance, and a new growth of hair was perceptible. It was nearly two months before the contraction and paralysis disappeared. During these two months the alum was continued, gradually increasing the intervals between the doses. Lead-poisoning in animals is rare.

ANTIFEBRIN.

DR. J. K. MURRAY, of Kendal, communicates to the *British Medical Journal* notes of three cases in which he administered antifebrin for the purpose of lowering the temperature. This it did to the extent of from three to five degrees. Three-grain doses were given to children aged two and three, and 15-grain doses to an adult. From this he concludes that antifebrin is much more powerful than quinine, kairin, or antipyrin. It equals antipyrin in the duration of its effects, and in this respect surpasses quinine or kairin. It is only excelled in the quickness of its action by the external application of cold.

SOOTHING MIXTURE FOR CONSUMPTION.

DR. J. B. JOHNSON communicates the following formula to the *Med. and Surg. Reporter*:—

Syrup liquorice root	℥j.
Aromatic syrup of rhubarb	℥ss.
Fluid extract of opium	ʒj.
Liquor ammon. acetat.	℥v.

M. Sig.: Shake well.

Dose: A tablespoonful every two or three hours.

Patients become very fond of this mixture, and it in no wise interferes with the stomach or appetite. Should constipation ensue, it is easily overcome by an occasional dose of compound liquorice powder.

AN OVERDOSE OF ESERINE.

DR. ANDREW DUNLOP, Jersey, records (*The Lancet*) a case of poisoning with eserine. The patient, a lady of sixty, who suffered from cataract, was ordered eye drops containing one grain of the alkaloid to the ounce. By mistake the chemist gave a solution of one grain to the drachm. A single drop of this only was applied, and it was followed in a short time by severe clonic spasm of the eyelids, then a feeling of tremor or spasm in the thighs and arms, as well as other symptoms of a more or less alarming nature. From these she recovered next day, atropine being applied to the eye to dilate the pupil.

SALOL AS A SURGICAL DRESSING.

DR. FEILCHENFELD has employed salol in various surgical cases, both internally and as an external application. In cystitis and pyelitis he gave two or three 15-grain doses per diem with excellent results, and with little in the way of disagreeable symptoms beyond a green colouration of the urine of no particular moment. Externally salol was found very useful in ulcers of various kinds, and notably in a very obstinate case of bubo consequent upon a soft chancre, which had been operated on and treated with the strongest caustics without showing any disposition to heal. Salol, however, rapidly produced a change for the better, and cicatrisation soon occurred.

THE CURE OF DIABETES.

DR. MARTINEAU recommends a new cure for diabetes, for which he states (*Ann. Med. Chi.*) that he is indebted to the late Professor Rouget. The object of the treatment is to overcome the thirst which the patients find so intolerable, and it consists of a lithia and arsenic aërated water, which the patients may make in a seltzogene. Into the lower part of the seltzogene place 20 centigrammes (3 grains) of carbonate of lithia and a tablespoonful of solution of arseniate of soda (20 centigrammes to 500 grammes of distilled water), then fill up the lower globe with water and charge in the usual way. This amount of water is to serve for a whole day, and should be taken mixed with wine or the like. The treatment is said to give excellent results, without restricting the diet very much.

COVERING WOUNDS WITH PLASTER.

THE *Lancet*, recently commenting on a case of blood-poisoning which was believed to be due to a dirty wound having been covered with plaster, says the practice of plastering over recent cuts is one which in numerous instances has proved injurious. Apart from any question of blood-poisoning, indeed, the mere tension of retained discharges is an inevitable source of mischief where this custom is adhered to. The simple rule in surgery which provides for the free escape of pus where such is likely to form is one well known to qualified practitioners. Accidents due to neglect of this rule are chiefly liable to occur when a wound has been treated either by the injured person himself or by a practising chemist. In such cases plaster is the first resource, and is apt to be used rather well than wisely.

POISONING BY NUTMEG.

A CORRESPONDENCE has lately taken place in the *British Medical Journal* on the toxic character of ordinary nutmegs. Dr. A. Cumming Air (South Norwood) mentions a case in which a middle-aged woman took one nutmeg, scraped and mixed with hot water, as a remedy for arrested menstruation; two hours after taking it she was seized with extreme thirst, giddiness, and prostration; but to her the most painful effect was, in spite of the prostration, an intolerable restlessness, causing her to tramp up and down the room almost incessantly, holding on to the various articles of furniture for support; there was also "tightness of the chest," obliging her to loosen her dress. The symptoms continued (in spite of an emetic, strong coffee, and sal volatile) more or less during the whole of the evening and night, and then passed off completely.

Mr. T. P. Devlin (Carlisle) records similar symptoms in the case of a young lady who ate a whole nutmeg, being very fond of them. The treatment which was adopted, and under which the symptoms quickly passed off, was the use of strong coffee, cold douching of the head and face, enforced exercise in the open air, and a mixture containing ammonia.

Mr. A. J. Reeve Tyler (King's Norton) also had a lady patient who took too much nutmeg, and suffered accordingly. He gave her an emetic, then brandy, and ordered her to be wrapped in blankets, and hot-water bottles to be applied to her feet. He also gave her a stimulating mixture and an aperient. Next morning the patient was nearly well, only complaining of a feeling of lassitude.

The nutmeg is used by some women as an emmenagogue.

POISONING WITH PENNYROYAL.

DR. J. GIRLING records a case of poisoning with pennyroyal, the patient being a woman forty years of age (*Brit. Med. Journ.*). She had taken 1 oz. of the essence, which was equivalent to 1 drachm of the essential oil. When called an hour after the essence was swallowed, the doctor found his patient apparently unconscious; the skin was cold, and the heart exceedingly feeble in action. The other marked symptoms were feeble retching and much salivation. After administration of apomorphine, the patient vomited, but the exertion of vomiting induced collapse, and death was only averted by the hypodermic injection of brandy, which happened to be the only stimulant at hand. Cases of poisoning with pennyroyal are very rare. Dr. Girling calls attention to, and comments upon, the facility with which the drug may be purchased.

Suggestions.

FILTERS.—By soaking the edge of a filter with paraffin, wax, or fat (free from ash), the tendency which some precipitates have to creep over the edge is entirely removed.

FOR corns and bunions an efficient remedy is equal parts of castor oil and tincture of iodine. This is to be painted on the part two or three times a day.

GLUE CORKS.—*Rundschau* states that a mixture of glue, glycerine, and tannic acid has been named after *Potel*, potelin. It can be used for many purposes; good corks can be made from it.

DR. J. HUTCHISON, of Glasgow, recommends equal parts of tincture of *Siegesbeckia orientalis* (leaves) and glycerine as a cure for ringworm. The mixture is well rubbed into the affected parts night and morning.

SALICYLATE OF SODA in 5-grains doses four or five times a day has been recommended as "useful" in orchitis. An ointment composed of iodoform, ʒj., vaseline, ℥iss., should also be rubbed in three times a day.

INDIARUBBER which has become hard and brittle can be softened by steeping in ammonia water. Five minutes' to half-an-hour's immersion is required according to the state of the rubber.

ARTIFICIAL OIL OF LEMON is made by the action of hydrochloric acid gas upon terpin hydrate. The hydrochlorate which is formed is then treated with potassium, whereby it is transformed into a colourless oil, possessing the odour and chemical properties of oil of lemon.

DR. R. G. ECCLES, an American physician, has recently proved that ice-water is not safe to use for pharmaceutical purposes, because it contains germs. Distilled water should be used, he says, by every pharmacist. [The same thing was proved a year or two ago, but the subject is worth a reminder.—ED.]

CONSTIPATION IN INFANTS.—Dr. Kidd (Bassingbourne) recommends a simple purgative of grey powder and rhubarb, and the following mixture to be given in teaspoonful doses three times a day, about an hour after food:—Pot. iod., gr. xij.; glycyrrh. ext. liq., ʒss.; sp. chlorof., ʒj.; tr. bellad. ʒiss.; aq. ad ℥iij. M.

A PATENT has been applied for in the United States for a fire-extinguishing compound composed of carbonate of potash, 2 parts; carbonate of magnesia, 1 part; saltpetre, 2 parts; saleratus, 2 parts; and sulphate of iron, 2 parts. The quantity of water is not stated, but we presume that it will be sufficient to make 100 parts.

DRUGGIST'S MORTAR.—A patent (365,201) for a new mortar has been applied for in the United States. The mortar is of the ordinary semi-globular shape, and the peculiarity of it is that it is provided with four diametrically opposite lugs at the part where it begins to narrow. These fit into an annular wooden frame, and while in this position the mortar is thoroughly secure both for pounding and triturating. [A very old idea.—ED.]

LIQUEFIABLE SEALING-WAX, suitable for coating corks, may be made as follows:—Heat together 2 parts of Venice turpentine and 4 parts of white shellac; allow to cool somewhat, and add 10 parts of methylated spirit. Rub 5 parts vermilion into a paste with spirit, and add this to the mixture, stirring constantly during the addition. The whole is put into convenient bottles, and whenever it is desired to use the wax the preparation can be made perfectly fluid by immersing the bottles in warm water and shaking.

DISINFECTANT.—A solution of chloride of lead has been highly spoken of as a disinfectant. It is prepared by dissolving half a drachm of nitrate of lead in a pint of water and two drachms of common salt in a gallon of water; mix the solutions and allow the precipitate to subside. It is stated that a cloth saturated with the liquid and hung up in a room will at once sweeten a fetid atmosphere. Poured down a sink, water-closet, or drain, or on any decaying or offensive object, it will produce the same result. The solution has at least the virtue of cheapness, and is worth a trial.

BLUE INK FOR STAMPS AND PADS.—Dissolve 2 parts of borax in 20 parts of water, heat to boiling, and dissolve in it 2 parts of bleached shellac; separately dissolve 2 parts of gum arabic in 5 parts of water; with the latter solution mix intimately 1 to 2 parts of best ultramarine and add to the shellac solution. Finally, add enough water and a little glycerine, if necessary, to make 25 parts.

MILK TEST.—Water, especially if from a well, generally contains nitrates in appreciable quantity, which can easily be demonstrated by the blue colour produced by sulphate of diphenylamine. If you wish to know whether the cow with the iron tail has any connection with a sample of milk, drop twenty minims of sulphate of diphenylamine in a small porcelain dish, and add the same quantity of the milk to it. If this contains even 5 per cent. of average well water a blue tinge will gradually appear.

THE human organs of scent are, according to the researches of Fischer and Penzoldt, capable of detecting certain substances with a degree of delicacy 250 times greater than that of the eye by means of the spectroscope. On the other hand, we know from our own experience, and from the testimony of friends, that odours, even in the absence of a scientific nomenclature, fix themselves in the memory far more vividly and tenaciously than do colours, forms, sounds, or even words. Perhaps there is here the germ of a new analytical method.—*W. Crookes.*

FLIES.—Applications of carbolic acid and eucalyptus oil to domestic animals are valuable protections from the attacks of flies. Cattle and horses should be washed with soap-suds to which two teaspoonfuls per gallon of the crude acid has been added. For dogs the following will be found suitable:—Soft soap, ℥ss.; carbolic acid (crystal) and eucalyptus oil, of each ʒj.; methylated spirit, to ℥vj. A tablespoonful of this to be put into the animal's bath.

BLISTERING was a favourite method at one time for curing acute articular rheumatism, and the advocates of it are not yet extinct. We read that an American physician recommends the application of a cantharides plaster for five hours, poulticing with linseed meal and laudanum for other three hours; then the blisters are punctured, and so on. Just the old plan: but its new advocate also gives his patients lithium bromide and sedatives.

TO DETECT TURMERIC IN POWDERED DRUGS.—The following method has been suggested. Upon a piece of filter-paper place a pinch of the substance suspected and saturate with ether to extract the colouring-matter. When dry, add one drop of potassium hydrate to the stain, and, if turmeric be present, a red colour, changing to brown, is produced, which is destroyed by acids. With care, less than 1 per cent. adulteration can be detected in this way. In testing rhubarb for turmeric, a pinch of borax and hydrochloric acid is added to the stain, and if turmeric is present a red stain is produced.

MUDDY water is made clear in the following manner:—Dip a filtering-paper in a solution of ferric chloride (43 per cent.) and another paper in a saturated solution of sodium carbonate, and dry. Place a piece of the ferric chloride paper in the muddy water, then a piece of the sodium carbonate paper; a precipitate of ferric carbonate is formed which clarifies the water. The water thus treated can be filtered through a funnel whose neck is filled with a piece of sponge. It will be as clear as crystal, and can be used as drinking water.

CITRIN OINTMENT.—An American pharmacist proposes to make this ointment with cod-liver oil. His formula is—

Mercury	ʒss.
Nitric acid	ʒj.
Cod-liver oil	ʒvj.

Dissolve the mercury in the acid, and add the solution to the oil, so as to prevent effervescence, and the mixture stirred after each addition. The temperature of the oil should be between 175° and 200° Fahr., and the ointment should be stirred until cold. Obviously this preparation cannot be substituted for the B.P. one, because its chemical composition is totally different; but it may have preference in scrofulous affections.

PATENTS

The following applications for Patents have been registered at the Patent Office.

Alkali.—8,666.—June 16, 1887.—A. M. Chance and J. F. Chance. Treating alkali waste to obtain sulphuretted hydrogen.——9,227.—June 29, 1887.—C. Wigg. Manufacture of bicarbonate of soda.

Aluminium Chloride.—9,026.—June 25, 1887.—J. A. B. Bennett and W. Sunderland. Manufacturing aluminium chloride.

Aromatic Oxy Compounds.—8,932.—June 22, 1887.—A. Ewer, P. Pick, and M. Lange. Preparation of sulphuretted derivatives from the aromatic oxy compounds.

Beverages.—9,808.—July 12, 1887.—H. Eschwege. Cooling beverage.

Burns.—8,529.—June 14, 1887.—C. Schuttyser. The immediate cure of a scald from water, steam, or burning.

Butter Testing.—8,470.—June 13, 1887.—W. Devoll. Apparatus for testing butter.

Chlorine.—8,622.—June 15, 1887.—L. Mond. Obtaining ammonia, chlorine, and hydrochloric acid from ammonium chloride.——8,820.—June 18, 1887.—C. T. J. Vautin. Production of liquid or compressed chlorine.

Cobalt Sulphate.—8,922.—June 22, 1887.—W. N. Hartley and W. E. B. Blenkinsop. Manufacture of cobalt sulphate.

Combs.—9,607.—July 7, 1887.—J. H. Edmunds. Toilet combs.

Cotton-seed Oil.—8,734.—June 17, 1887.—R. Hunt. Treatment of cotton-seed oil to refine the same and obtain colouring matter.——8,947.—June 23, 1887.—G. Tall. Purification of cotton-seed oil.

Dipsomania.—8,537.—June 14, 1887.—A. Scott. Application of oxygenised water to the cure of dipsomania.

Disinfecting Apparatus.—8,644.—June 15, 1887.—H. Bouttell. Apparatus for diffusing vapours for disinfecting, medicating, or aromatising the air of rooms.

Enema.—8,373.—June 10, 1887.—H. J. Lange. An enema nozzle, so adapted that it will keep in position without being held.

Feeding-bottles.—8,695.—June 16, 1887.—S. J. Pocock. A regulating supply clip for feeding-bottles.——8,842.—June 20, 1887.—F. W. Laurie. Babies' feeding-bottle protector or suspender.——9,806.—July 12, 1887.—A. R. Stocker. Parts used in connection with infants' feeding-bottles.

Granular Substances.—9,205.—June 28, 1887.—R. H. Davies. Packing granular or pulverulent substances in casks and like receptacles.

Hair Brushes.—10,229.—July 21, 1887.—C. Klein. Hair brushes.

Ink.—9,624.—July 8, 1887.—R. J. Waters. Powdered aniline writing-inks.

Medicinal Preparations.—9,145.—June 28, 1887.—T. Hill. A specific for colds.——9,237.—June 29, 1887.—W. H. Wheeler, and W. Ayerst Ingram. The cure of sea-sickness, to be called "The Lerram plaster."

Microscopic.—9,126.—June 27, 1887.—J. Edmonds. An automatic mica stage for use with the micro-polariscope.

Mustard.—9,620.—July 8, 1887.—A. Carter. Preservation of liquid mustard.

Paper Tubes fer Medicines.—9,633.—July 8, 1887.—W. P. Thompson. Paper tubes for the administration of medicines, beverages, and the like.

Polish.—10,111.—July 19, 1887.—C. Schachtel. Furniture polish.

Silver-paste.—8,334.—June 10, 1887.—J. Nicholls. "Silver-cleaning" paste.

Sodium.—8,426.—June 11, 1887.—J. B. Thompson and W. White. Manufacture of sodium and potassium.

Stethoscopes.—8,804.—June 18, 1887.—W. R. Pike. Stethoscopes.

Sulphuric Acid.—9,188.—June, 28, 1887.—E. Hänisch and M. Schröder. Process and apparatus for the production of sulphuric anhydride.

Surgical.—10,030.—July 18, 1887.—A. W. Walker. An improved surgical instrument.——10,181.—July 20, 1887.—J. Schmitt. Surgical knives.——10,212.—July 21, 1887.—J. Mayer. Bougie catheter.

Tannin Matters.—8,816.—June 18, 1887.—H. J. Simpson, G. de M. Mackirdy, and H. Taylor. Manufacture of tannins, gallates, kinos, and other vegetable extracts from a certain tree-bark and wood.

Tea Extract.—9,639.—July 8, 1887.—A. McDougall. Manufacture of compounds of sugar and tea extract, or other extracts or essences.

Tonic Mixture.—8,603.—June 15, 1887.—A. Savigear. Appetising tonic mixture.

Tooth Brush.—9,852.—July 13, 1887.—R. Mische. Brushing device applicable as a tooth brush.

Transfusion of Blood.—9,215.—June 28, 1887.—R. Haddan Instruments for the transfusion of blood.

Truss.—9,872.—July 14, 1887.—J. Andrew. Double spring rupture truss.——8,503.—June 13, 1887.—C. B. Harness. Surgical trusses.

Vaccination Shields.—8,700.—June 16, 1887.—J. Turner. Vaccination shields.

Varnish.—9,618.—July 8, 1887.—S. Washington. Compound for application to ironwork as a paint or varnish.

Specifications of Patents recently published.

1887.

3,684. H. H. Lake. Artificial ear-drums. 6*d.*

4,480. P. V. P. Berg and O. Sörensen. Cream tester. 6*d.*

6,018. A. J. Boult (Kennedy). Purifying hydro-carbon oils. 4*d.*

6,285. A. R. Leerbeck, and J. F. Holm. Producing albumen-maltose dietary malt powder for food. 4*d.*

6,323. W. L. Wise. Varnish. 6*d.*

6,808. S. R. Divine, and G. F. Morgan. Aërated beverages. 8*d.*

1886.

7,050. J. W. Jackson. Feeding-bottles, &c. 6*d.*

7,582. C. F. Claus. Ammonia compounds from coal gas. 8*d.*

8,819, L. A. Chevalet. Distilling and purifying ammoniacal liquids. 8*d.*

9,167. S. A. Perry. Skin potion. 4*d.*

9,208. H. W. Deacon and F. Hurter. Producing ammonia from sulphate of ammonia. 8*d.*

9,227. J. S. Sawrey. Softening and purifying water. 8*d.*

9,738. A. Brin. Preserving milk. 6*d.*

10,281. A. Knoll. Producing ethers of morphincarbonic acid. 4*d.*

10,387. A. Knoll. Producing methylmorphin, &c. 4*d.*

10,481. M. Strasser. Artificial gum. 4*d.*

10,571. P. P. Kipping, and F. H. Judson. Earthenware or glass filters. 8*d.*

10,645. A. E. H. Loze. Apparatus for aërated beverages. 8*d.*

10,873. A. Rossi and C. Hellfrisch. Gum. 4*d.*

13,249. S. Thompson. Medicated vapour-bath. 1*s.* 1*d.*

16,095. J. T. Long. Hair brush. 6*d.*

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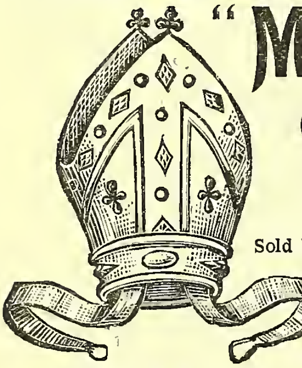

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An analysis of the water having been made in November, 1886, by Professor Wanklyn, M.R.C.S., corresponding member of the Royal Bavarian Academy of Sciences, Professor of Chemistry, a very important discovery has been made, viz., the presence of Free or Elementary Iodine.

Dr. Wanklyn says—"So far as I am aware, this is the first instance in which free Iodine has been found in appreciable quantity in a natural water. For many years the Woodhall Spa has been celebrated as a valuable remedy in skin diseases. The fact that it is a solution of free Iodine is interesting in this connection, and well worthy of the attention of the medical profession."

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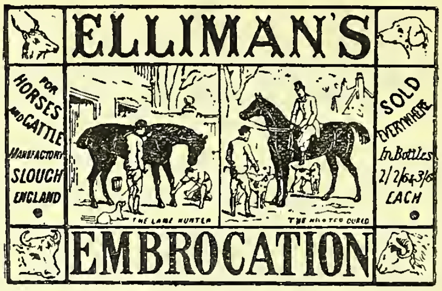

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EDITORIAL NOTES.

THE PHARMACEUTICAL COUNCIL AND COMPANY PHARMACY.

If the *Pharmaceutical Journal* of last week was duly inspired, instructed, or authorised in its comments on the last "Leith Depôt" judgment, it is evident that there is a disposition at Bloomsbury to drop the troublesome business. Not a word is said intimating an intention to go on with the contest. On the contrary, the official writer clearly assumes that the new point raised has been finally disposed of, and, moreover, introduces the extraordinary remark that the judgment serves "to justify the opinion that litigation of the points in question was undesirable." That is, of course, a contention for which there is something to be said; but it comes with bad grace from the organ of the complainant in the action, and especially at a time when the Council has not had an opportunity of deciding whether further steps shall be taken or not. The cry of *Peccavimus* in the middle of a fight is a blunder for which there is no excuse: and until the Council have met and considered the position of affairs, no individuals have the right to assume that the contest is ended.

Surely the Pharmaceutical Council will not make such a mistake as to abandon their action at this point. If they do they bar themselves for ever from any further attempt to check this terrible canker in the heart of the profession which they claim to represent, and which they declare they wish to serve. They cannot prosecute any other unqualified persons who form themselves into a company and then defy the Act, because the record of the High Court of Justiciary will stand against them; and they cannot ask Parliament for an amendment of their Act, because they will not have proved their present Act to be defective. The judgment of Sheriff Rutherfurd was not incompatible with the decision of the House of Lords, and it is by no means certain that the latter tribunal would so regard it. Lord Moncrieff arrived at an adverse conclusion "with difficulty"; and Lord Young attained to his opinion with a great deal too little difficulty to make his judgment a very reliable one. A judge who who introduces irrelevant and unproven anecdotes into his judgment, and supports his legal conclusions with such fragile props, must take the credit due to him for such a proceeding. We presume no serious Court would permit a counsel to present his argument on such a basis, without reminding him of its utter unsoundness.

Sound or not, however, it will be a calamity of the first order if it should be resolved to drop the litigation. By this time harm has been done, we agree, by raising the question; no more harm can be done, and a very great compensating benefit may accrue by pressing forward resolutely. Faint-heartedness at this point stamps and seals the doom of personal pharmacy in this country as a profession.

It is not for us nor for the Pharmaceutical Council nor for friends nor opponents to discuss the legal aspect of the matter. We only say that we shall be in an infinitely better position if we go on to the House of Lords and get defeated than to let the question rest where it is. We gave specimens last week of the character of this company pharmacy. Here are auctioneers, advertisement agents, solicitors, "gentlemen" and spinsters who put a cross for their signatures incorporating themselves and calling themselves "chemists and druggists." And these people are doing the business and ruining the profession of pharmacy. If Parliament meant what it seemed to say when it enacted that the title "chemist and druggist" should guarantee a certain degree of competence, Her Majesty's judges are bound to listen respectfully to the new arguments, and for ourselves we shall be surprised if they do not admit their force.

The issue raised in the Leith Depôt case was not planned, we understand, at Bloomsbury. We did not believe last week that its "foreign" origin would have militated against it at headquarters; but after last week's cry of the wounded, what are we to think? We trust that the independent members of the Pharmaceutical Council will next week press for a definite declaration of policy on the Company question at this critical moment, and that the Council as a body will resume its armour and assume the courage and prudence with which we credited it last week.

BRITISH MEDICAL ASSOCIATION.

For the second time in its history this association meets in the Irish capital this year, the meeting beginning on Tuesday next in Trinity College, Dublin. The annual reports of the Association are published a few weeks before the annual meetings, and they afford a satisfactory indication of the progress of the Society. One of the best proofs of this progress is to be found in the growing interest taken in the Association by colonial physicians. Branches have existed in India and Australia for some years, during the past year one was established in Bermuda, one is on the eve of formation at Colombo, Ceylon, and others at Halifax, N.S., and in Cape Colony. These branches are active concerns, they hold meetings, read papers, and duly report the same to the official journal with as much enthusiasm as the home branches. So much success has followed the establishment of these colonial off-shoots that in the present report the opportunity is taken to compliment the honorary secretaries on their labours, which "deserve the unstinted gratitude of every member." During the year the Association has taken occupation of new premises at 429 Strand—a fine corner building close to Charing Cross. This has been adapted to the requirements of the Association at a cost of 4,500*l.*, a further sum of 4,965*l.* having been paid for lease and fixtures. The gross income of the Association for the year was 25,385*l.* 2*s.* 10*d.*, while the expenditure was 21,395*l.* 15*s.* 6*d.*, leaving a surplus of 3,989*l.* 7*s.* 4*d.* In connection with finance a committee reports that it is essential for the welfare of the Association that a sum of not less than 2,000*l.* should be invested every year—the invested funds now amount to over 17,500*l.* In consequence of a vote of the members, it is also proposed that the above-named sum should be invested before payment of expenses is made to members of Council. This payment is to be proportionate to the distance travelled by the members: thus, a member residing within 100 miles of the place of meeting gets a fee of one guinea, while one residing over 400 miles from the place of meeting will receive five guineas.

The Parliamentary Bills Committee of the Association is a very active body, so active, indeed, that it discovered a flaw in the Pharmacy Acts Amendment Bill which is now before the House of Commons. This committee reports that it objected to the clause of the Bill which provided teaching under the general head of "materia medica" such as might have been made to include also therapeutics; while, on the other hand, the restricting clause in the old Pharmacy Act, requiring the Society to abstain from teaching or examining in medical subjects, was not continued. For those and other reasons the committee addressed a letter to the General Medical Council on the subject, which was referred by the Council to an executive committee, and subsequently Mr. Marshall (President of the Council), Sir John Simon, and Dr. Quain had an interview with the Clerk of the Privy Council, and put before him views in accordance with those expressed in the letter. A communication to Mr. Marshall expressed a general concurrence of the Government in the views urged, and amendments have accordingly been drawn, which Sir Walter Foster has undertaken to press in committee. The amendments do not affect the principle of the Bill, and are based entirely on the supposition that the pharmaceutic "materia medica" includes other branches of the subject than pharmacognosy and the chemistry of drugs. The promoters of the Bill have intimated their willingness to accept the amendments.

The reports of the Scientific Grants and Collective Investigation Committees contain little of general interest. The latter committee does not appear to be in a healthy state; there have been murmurings at the meagreness of its results, and the Council authorised the continuance of its work up to June 25 of this year only. Mr. Isambard Owen, the secretary of this committee, in his report replies to his critics, and points out that, although this system of investigation has been only five years in existence, many valuable facts regarding pneumonia, acute rheumatism, chorea, and diphtheria have been acquired, while there are other subjects under investigation which will provide much interesting information. Next week the Association will determine whether this committee shall be continued or not.

We understand that there is every prospect of the Dublin meeting being a successful one. The papers are numerous, and other attractions offered are of a popular character. In the pharmacology and therapeutics sections Dr. Unna, of Hamburg, instead of reading a paper, will give a demonstration on improvements in therapeutics of the skin; in the discussion to follow Professor McCall Anderson, Glasgow; Malcolm Morris, F.R.C.S., London; H. G. Brooke, M.B., Manchester; James Startin, M.R.C.S., London; and Professor W. G. Smith, Dublin, are expected to take part. Mr. Malcolm Morris will also give a practical demonstration on the Nature and Treatment of Ringworm of the Scalp.

The following papers are promised for this section:—

Atkinson, G. Armstrong, M.B., Edinburgh. The Effects of the Nitrite Group upon the Urinary Constituents.

Brooke, H. G., M.B., M.R.C.S., Manchester. On the Antiparasitic Treatment of Skin Diseases.

Brunton, Lauder, M.D., F.R.S., London. On the Use of Codeine in Abdominal Pain.

Eccles, A. Symons, M.B., M.R.C.S. Massage as a means of Treatment in Chronic Dyspepsia.

Gibson, G. A., M.D., Edinburgh. The Use of Water in certain Renal Disorders.

James, Prosser, M.D., London. The Effects of Topical Treatment on Mucous Membranes.

Leech, D. J., M.D., Manchester. On Sparteine.

Smith, Walter G., M.D., Dublin. Notes on the Treatment of Lupus and on the Use of Iodol.

Startin, James, M.R.C.S. On Dermatological Therapeutics.

It is stated that the Association has received an invitation to visit Glasgow next year.

HINTS ON ANNATTO CULTURE.

The export of dried annatto seeds from Ceylon and the West Indies, principally Jamaica, has lately assumed such proportions that the value has fallen to a level which can scarcely render the gathering of the seed remunerative. But concurrently with the low value and superabundant supply of seed there exists a steady if not a large demand for Brazilian, or so-called Pará roll annatto, which is worth, if good, about 1*s*. 8*d*. per lb. in first hand. The supply of the latter variety, as of many articles for which we depend upon the natives of the American tropics, is subject to frequent interruptions, and it sometimes occurs that no Brazilian annatto is obtainable for considerable periods.

Excluding Brazilian annatto there are two important sources from which the article is drawn, viz. the French West Indian settlements and the British East and West Indies. French Indian annatto is usually shipped to Bordeaux and Hâvre, and distributed thence over Europe, while the British Colonies mostly ship their produce to England and to the United States.

In French Guayana, or Cayenne, as it is commonly called, and the French West Indian island of Guadeloupe, the culture and preparation of annatto forms a recognised branch of industry, to which much attention is paid, and which is an important source of revenue to its promoters. It is stated that on Guadeloupe alone there are no less than forty-eight annatto plantations, covering an area of 528 hectares, and employing 1,044 labourers. The yield is a somewhat uncertain one, but the industry is apparently increasing; for while in 1870 379,400 kilos. were exported, the shipments for 1883 show a total of no less than 700,500 kilos. In Cayenne the annatto plantations are said to number no fewer than 563, covering 1,783 hectares, and yielding about 450,000 kilos prepared annatto annually. Notwithstanding complaints which have often been made about the adulteration to which French annatto is subjected, that variety appears to command a fairly steady sale. A common way of preparing it is said to be as follows:—The seeds, when taken from the pod, are covered with hot water and thoroughly stirred, in order to separate the red colouring material—which forms the only really valuable portion—from the white core of the seed. After some days the mixture is passed through a sieve, which retains the now valueless seeds. It is then subjected to fermentation for another week, evaporated to a semi-liquid condition, and moulded in square cakes. These cakes, which are brown externally and reddish or yellowish inside, are dried in the shade and sent to the market packed in banana leaves. The American Indians have a way of separating the colouring matter from the seeds by rubbing the latter between their oiled hands, and annatto thus obtained is much esteemed by artists as a colouring material, although it is rarely met with on the European markets, the Indians preparing it rather for decorating their own bodies than for commercial purposes. In Guadeloupe, we understand, an improved process of preparing annatto has been found to answer well. It consists simply in soaking the seed in cold instead of in hot water, passing the mixture through a sieve and drying it in the shade, without recourse to artificial heat. When evaporated to dryness, the residue is ground in a spice-mill. The annatto manufactured by this treatment is said to be five times as rich in colouring matter as that made by the hot-water process. The Brazilian annatto, which is chiefly brought into commerce by way of Pará, is mostly prepared by Indians in the Amazon valley; but although the tree, or rather shrub, is very plentiful around the Indian villages, and produces fruit almost all the year round, the indolent habits of the natives render a regular supply almost out of the question. In Jamaica, St. Lucia, and other British possessions in the West Indies the annatto plant flourishes luxuriantly up to an altitude of two thousand feet; but although it has been partly propagated by cultivation, there do not appear to be in the British Colonies any regular plantations of the shrub, and in order to encourage the industry, a recent *Kew Bulletin* has been devoted to the subject. Annatto is exported from the British possessions mainly in the form of cured seeds, of which Jamaica shipped 369,284 lbs. in 1886. Dr. Macfadyen in his work on "The Flora of Jamaica" gives the following account of the method formerly used there:—

> "Annatto is collected by pouring boiling water on the seeds in any convenient vessel. After stirring the whole the water, with the farina suspended in it, is poured off, and this is repeated till only the naked seeds are left. The water, after some time, is finally poured off, leaving the annatto, which has settled at the bottom. The addition of an acid is said to hasten the process. The sediment is afterwards placed in shallow vessels and dried by evaporation in the shade. When it has acquired a proper consistence it is made into cakes or balls, and after being thoroughly dried is in a fit state to be sent to market."

From this description it will be seen that the usual method of preparing annatto has been substantially the same in all parts of the West Indies, and the circumstance that recently the unprepared seeds have been exported from the British Colonies to such a large extent is probably due to the fact that prepared annatto, when imported into the United States, the principal customer for the article, pays a heavy duty, whereas the seeds, being classified as raw material, are free. Considering, however, the enormous difference in price between the seeds and well-prepared roll or paste, there can be little doubt that a practical system of annatto preparation might eventually become a not inconsiderable, though necessarily a minor, source of revenue to the colonial planter. The most rational process of extracting and preparing annatto, and the one which it would probably best pay planters to adopt seems to be that of Leblond. It consists of simply washing the seeds until they are entirely deprived of their colouring matter, to precipitate the latter by means of vinegar or lemon-juice, to boil it up in the ordinary manner, and to drain it in bags, as is done with indigo. Dyers who have used annatto prepared by Leblond's process state that its colouring power is at least four times in excess of that of ordinary commercial annatto, that it required less solvent, gave less trouble in the copper, and furnished a purer colour.

In Ceylon annatto is now very largely grown. It is supposed that the plant, which is undoubtedly of American origin, was introduced into the island by the Dutch colonists, who have also acclimatised it in Java, whence shipments are now frequently forwarded to Europe. In Ceylon the annatto plant is grown up to an altitude of 3,000 feet, but it flourishes best in low-lying districts. Moist, warm situations, with an average temperature of 75° to 80° F. appear to suit it best, and an abundant rainfall is a *sine quâ non* for its success. The plant can be easily propagated from the seed, which should be cleansed from its colouring material by means of tepid water, and dried in the shade. The seeds may be placed in beds at distances of about four inches, and covered $\frac{1}{4}$ inch deep with earth. The sowings may be protected by covering them with banana leaves, and should be kept moist. When the plants have attained a height of about 6 or 8 inches they may be transplanted, during the rainy season, at distances of from 10 to 20 feet apart. The plants usually commence to yield fruit in the third year of their growth. Cattle, horses, or goats do not eat the leaves, so that hilly pasture lands may with advantage be selected for annatto-planting.

In a recent report on annatto by the United States Consul at Pará, it is stated that the plants should be grown in full sunshine, but this view does not tally with that of other authorities, who agree that the plant grows best in shaded places. The culture requires very little care, and entails scarcely any expense, so that, if the price of the seeds or paste should not be renumerative, little is lost by simply leaving the crop ungathered. Messrs. Fulwood & Bland, and S. G. Clements & Co., who are among the principal consumers of annatto, have given it as their opinion that annatto cultivation would be found to pay best if the Ceylon and Jamaica planters did not ship the seeds to this country, but only the prepared article, which should be manufactured with the utmost care, and might, in that case, speedily drive the French Indian annatto from the market. The seeds, if shipped at all, might be sent to the United States, where they can be imported duty free. Messrs. Clements & Co. mention that some time ago they purchased, through a firm of London brokers, some exceptionally fine annatto paste prepared in Ceylon, but subsequent lots received from that quarter showed a falling-off in quality, and upon inquiring for paste of the accustomed high standard, they were informed by their brokers that it was all shipped to America, where as much as 3*s*. 6*d*. per lb was paid for it—a price which probably includes the duty.

The employment of annatto is considerable, although systematic cultivation on too extensive a scale would soon cause a glut in the market. Its chief use is as a colouring material for cheese and butter, for which purpose it is well adapted (supposing these articles should be coloured at all), by reason of its innocuous character. We have heard in stated that a pound of annatto prepared by the cold-water process mentioned above is sufficient to colour 1,200 lbs of cheese. Probably a large quantity of annatto also finds employment in the American butterine industry. In Spanish-speaking countries annatto is employed to impart colour and flavour to chocolate, soups, and rice, and the seeds, leaves, and roots of the plant are also used as condiments, dyeing materials, and, medicinally, as a febrifuge. Another use of annatto is as a dyeing material for cotton, silk, calico, and woollen fabrics, to which it imparts a beautiful yellow hue, but it is said that the colour does not last. Annatto is mixed with yellow dyes in order to give them an orange shade. The addition of an alkali increases its solubility. and it is therefore generally mixed with at least its own weight of potash.

THE PHARMACY ACTS AMENDMENT BILL.

We have not had occasion to report progress with this old friend for some time. It has appeared and reappeared in the House of Commons notice paper, and now that some of its bigger companions are being moved out of the way, and members are looking forward to the end of the session, may even yet get its innings. At present the adjourned debate on going into committee is set down for Wednesday, August 10. Mr. Gent Davis's blocking notice, "that the House resolve itself into committee on that day three months," stands first on the notice paper, and prevents the debate coming on after half-past twelve. The notices of amendments to be moved, if the Bill should get into committee, are growing. Those already suggested are the following:—Mr. James Ellis desires to eviscerate the Society's scheme by omitting from the first clause the words in the annexed sentence which we print in italics:—

> "Also that persons presenting themselves for a final part of an examination shall have deposited with the Registrar under the said Acts certificates of *their having duly attended courses of instruction in chemistry, botany, and materia medica*, and having for not less than three years in the whole served in the capacity of apprentices or pupils in the open shops of chemists and druggists."

In the above-quoted sentence Sir Walter Foster proposes to check any tendency towards medical practice by inserting after the words "materia medica," "exclusive of therapeutics." It remains to be seen whether any future professor will be able to properly teach materia medica with entire exclusion of any allusion to or consideration of therapeutics. Sir Walter Foster also wishes to add to the words we have quoted the following:—"Nothing herein contained shall be deemed to extend the rights of any person registered under either of the above-mentioned Acts."

Mr. James Ellis proposes to add to the clause printed above, after mentioning the shops of chemists and druggists, the words "or in public hospitals or dispensaries."

In clause 2 Mr. Ellis proposes, as a necessary corollary of his first suggestion, to omit the words making it lawful for the Pharmaceutical Society "to prescribe the courses of instruction in chemistry, botany, and materia medica, as aforesaid." Colonel Duncan, however, would leave in those words, but would append the following:—"Such instruction, and the schools where such instruction shall be given, to be approved by the Privy Council on the recommendation of the Council of the Pharmaceutical Society."

Sir Walter Foster lastly will move the entire rejection of the following part of clause 2:—

> "And it shall at all times be lawful for the Council of the said Society by resolution, on being satisfied by a certificate of a committee of the same Council authorised on that behalf that any person therein named has acquired, whether in England or Scotland, or elsewhere, competent practical skill and knowledge in and of the business of a chemist and druggist, to waive and dispense with the whole or any part of the said term of three years or any period of time aforesaid, and any evidence of having attended any such courses of instruction as aforesaid in relation to the person therein named."

That is, if Parliament consents to a curriculum, Sir W.

Foster reasonably urges that it shall not be in the power of the Pharmaceutical Council whenever it may please them to suspend the operation of the Act.

Next, Mr. Radcliffe Cooke is to propose that the following words be added to clause 2:—

> "Provided, That nothing in this Act shall entitle the Pharmaceutical Society to prescribe the places where or the persons by whom the aforesaid courses of instruction in chemistry, botany, and materia medica shall be given.

rendering the Act, if passed, practically inoperative. And finally, Mr. Kelly would make the Act take effect from 1891 instead of from 1888.

It will be seen that the Bill has been somewhat closely scrutinised, and "old parliamentary hands" are of opinion that too many assistants are anxious to give their help to allow of a fair prospect of the Bill passing, even if it should cross the bar of committee.

Chinese Materia Medica. The second of the series of papers on Chinese Materia Medica by Messrs. Ford, Ho Kai, and W. E. Crow, to which we have previously referred, is on the St. Ignatius's Bean. In the Cantonese dialect the drug is known as *Fu Kwo tsz*, and in the mandarin as *K'u kuo tzu* (bitter fruit seeds), but the authors have been unable to find any reference to it in any Chinese work on botany or materia medica. The present paper is the result of one of the inquiries formulated by Professor Oliver and the late Daniel Hanbury sixteen years ago. They stated in the "Admiralty Manual of Scientific Inquiry" that "the plant which yields St. Ignatius's beans is said to be a climbing shrub, to which the name *Ignatia amara* was given by the younger Linnæus, and is a species of *Strychnos* probably unknown to modern botanists. It is believed to grow in Bohol and Cebu, islands of the Bisaya group of the Philippines. As it is one of great interest, no opportunity should be lost for procuring abundant flowering specimens, as well as the entire fruits, both dried and preserved in alcohol," &c. The authors obtained from the Bisayas specimens of the leaves and twigs, and portions of the stem and root. A young tree was also received, but too far gone for cultivation. It is satisfactory, however, that from an examination of the leaves, &c., the authors are able to confirm the observations of Loureiro and Blanco, hitherto the authorities, that the leaves are about 5 inches long, 2½ broad, and the venation the same as characterises strychnos species generally. Specimens of the leaves, trunk, and root are to be found in the Pharmaceutical Society's museum, and a full botanical description of the plant has been published in the *Revision de Plantas Vasculares Filipinas*, published at Manila in 1886. The authors do not therefore enter fully into this part of the subject, and, as the other parts have been pretty well trodden by previous investigators, the new matter in the paper consists mainly of facts regarding the use of the drug in China and the names under which it is known. In the "Revision" which has been referred to, it is stated that the tree grows in the Samar and Masbate Islands, also in Bohul and Cebu. It is found in Cochin China, where it is known as *Ho dant gio*. The Bisaya names for the plant and seeds are numerous, and include such as Aguason, catalonga, and igasur. The Spaniards of the Philippines call the seeds pepita de Bisaya or p. de Catbalog, and, in India, as Hanbury pointed out, it is known as papita, which is a corruption, probably, of the Spanish name. Whether the Bisaya name igasur is original to that country, or whether an adoption of the French name for the bean, or a modification of the name aguason, is not stated. As regards the Chinese name the authors explain a discrepancy which has crept into this part of the nomenclature. Hanbury's name for the drug was *Lu sung kuo*, or luzon fruit, and Dr. Porter Smith stated that Chinese writers call it *K'u shih pa tou*, which is really one of the *Pên ts'ao* names for nux vomica. The word *sung* in Hanbury's name of the drug is the generic term for any species of *Pinus*, and is erroneously applied to St. Ignatius's bean. The authors explain the error on the ground that the person who furnished the Chinese name of the specimens forwarded to Mr. Hanbury was not acquainted with their real name; but, knowing that they had come from the Philippines, and not wishing to appear ignorant, he called them *Luzon fruits*—a name which would be quite as applicable to the fruit of any tree or plant growing in the Philippines as to the seeds of *Strychnos Ignatii*. The fruit of this strychnos is a handsome one-celled globular fruit about four inches in diameter. Some years ago it was fully described by Professor Flückiger and A. Meyer. It has a bitter pulp like the nux-vomica fruit, and the seeds are supposed to be richer in strychnine than nux vomica. The beans are not largely used by the Chinese in Hong-kong. Many of the native doctors do not know them at all. They appear to enter into the composition of powders, &c., for the treatment of cutaneous affections, in much the same way as nux vomica.

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Trade-marks in the Indies. Her Majesty's Consul at Batavia reports that in certain instances unauthorised persons have registered and used in the Netherlands Indies trade-marks the property of British firms. To prevent these proceedings, Her Majesty's Consul recommends British owners to empower their agents in the Netherlands Indies to register, on their behalf, such trade-marks as they wish protected, and to protest against the registration if it has already been effected by others. The necessary documents are as follows:—(*a*) Power of attorney in favour of the owners' agents, authorising them to register their trade-mark, and to protest against others registering it. Powers of attorney must first be legalised by a Dutch consular official in the United Kingdom, and afterwards by the Foreign and Colonial Minister at The Hague. (*b*) Certificate proving the ownership of the trade-mark, and that it is duly registered in England. (*c*) Three copies of any trade-mark the owner may wish to have registered, with particulars of the class of goods on which same is used. Protests against registration have to be lodged within a year of the original registration.

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A Welsh Champion. Mr. Owen Jones, of Llanrwst, chemist and druggist (modified examination), finding no further scope for his services at Birmingham, but still anxious to devote his abilities to the cause of political pharmacy, has issued a circular to some of the chemists in his district, of which the following is an exact copy. We do not wonder that after this specimen of his genius some of our friends in the Principality are reluctant to place themselves under his leadership.

NORTH WALES CHEMIST ASSOCIATION.

Apothecaries' Hall, Llanrwst; 8th July, 1887.

DEAR SIR,—At the request of several Chemists I have been asked to form a circular and forward it to my brother Chemists in North Wales, suggesting the advisability of forming an association to be called as above or some other name. Doubtless you are aware that the Chemists and Druggists Trade Association of Great Britain, (of which I was a humble member of its Executive), has collapsed for want of Funds, etc., much might be said about the expenses which was connected with its management, however that is a matter upon which comment would be of no avail, as the association is no more. You are, no doubt, aware that the Medical Proffesion has a local association, and they meet at different centres once or twice a year, to discuss matters connected with their Proffesion.

Could we not form a similar association, with its President, Vice-President, Treasurer, Solicitor and Secretary, with an annual Subscription say 5*s*. or 10*s*. per annum? which entitled the protection of that association to each Subscriber.

Without going to further particulars I shall be very glad to have your views without delay, and suggesting a centre to meet, convenient for the whole of North Wales, to discuss the matter. What say you about Conway? which is central on the Main Line. Awaiting your reply,

I have pleasure in remaining, yours faithfully,

OWEN JONES.

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A Chinese Medicine Advertisement. The *North China Herald* gives the following as the translation of an advertisement in a native paper commending the "Fairy Receipt for lengthening Life Pills." "The receipt for these," declares the advertiser, "has come down to us from the physician Hsü Ch'un-fu in the time of the Ming dynasty. A salt controller, Ch'ên-ta-jen, was journeying on the Ch'ing-ch'êng Hill, when he saw a woman passing southwards over the mountain tops as though flying. Her age was about thirty, and in her hand was a stick, and she was pursuing an old fellow of 100 years. The salt controller asked the woman, 'Why do you beat that old man?' She answered, 'He is my grandson, for I am 500 years old, and he 111. He will not purify himself or take his medicine, and so I am beating him.' The salt controller alighted from his horse and knelt down and did obeisance to her, saying, 'Give me, I pray, this drug, that I may hand it down to posterity for the salvation of mankind.' Hence it got its name. It will cure all affections of the three intestines and derangements of the seven emotions, constitutional debility, feebleness in moving about, dimness of vision, rheumatic pains in the loins and knees, and cramp in the feet. A dose is two mace. Take it for five days and the body will feel light; take it for ten days and your spirits will become brisk; for twenty days and the voice will be strong and clear and your hands and feet supple; for one year and white hairs become black again, and you move as though flying. Take it constantly and the hundred ills will vanish, and you will pass a long life without growing old. Price per bottle, one dollar."

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Haydon's Chemists Defence Agency. Mr. Haydon reports that in three weeks a compact body of seven hundred and fifty chemists have associated themselves with his agency. We are very glad to hear it. That number is sufficient to ensure stability, and with confidence that the enterprise is to be a permanent one many more chemists will be likely to send in their names. No one doubts the competence of Mr. Haydon, with the aid of Mr. Glaisyer, to do thoroughly well all that can be done in defence of an attacked chemist. Half a guinea a year is not a great sum to pay for the guarantee of such a defence in case of attack, and we do not see that the advantages can be offered on a more economical basis. Mr. Haydon's announcement appears on another page of this issue and is worth the careful attention of every chemist.

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Alkali Industry. In the report of Mr. Fletcher, the chief inspector under the Alkali Works Act for 1886, it is stated that the number of works under inspection during the year was 910, or, if Scotland be included, 1,048. This shows an increase of 13 English and 3 Irish works during the year. Of the 910, 118 were alkali works as defined by the Act, and 792 were other works which come within the scope of the Act. In the year 1885 the numbers were 132 and 762 respectively, showing a diminution of 14 in the number of alkali works, and an increase of 30 in other works. In some of the works several distinct processes are carried on, each of which requires a separate examination on the part of the inspector. These are set forth in the following table, as distributed among the districts:—

—	Dist. I.—Ireland	Dist. II. — North of England	Dist. III.—Cheshire, N. Wales, and Part of Lancashire	Sub-Dist.—Widnes	Dist. IV.—East Lancashire and Yorkshire	Dist. V.—South Midland	Dist. VI.—South-west of England	Dist. VII.—South-east of England	Total
Alkali..	2	12	17	16	11	3	4	2	67
Hydrochloric acid (cylinder)	—	—	—	—	17	3	—	8	28
Copper (wet process)	—	5	2	5	3	2	3	—	20
Cotton carbonising (alkali)	—	—	—	—	9	—	—	—	9
Sulphuric acid ..	15	24	21	18	43	28	46	32	227
Chemical manure ..	20	34	15	1	28	45	42	60	245
Gas liquor	—	2	3	—	14	1	—	1	21
Nitric acid	—	2	3	1	40	19	2	15	82
Sulphate and muriate of ammonia ..	14	27	22	4	43	53	57	66	291
Chlorine and bleaching-powder ..	2	8	9	17	7	2	1	2	48
Salt	10	7	55	1	—	4	—	—	77
Cement	2	14	2	—	6	7	4	58	93
Total	65	135	149	63	226	167	159	244	1,208

During the year 1886 the number of separate operations under inspection was 1,208, while in Scotland there was a further number of 187, giving a total for the United Kingdom of 1,395. During 1885 the total number was 1,368, showing an increase during the year of 27.

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Cotton-seed Oil Liniments. In a paper on "Cotton-seed Oil," contributed by Mr. William Gilmour to this journal in 1885, attention was called to the fact that the oil saponifies with difficulty; and although on the report of the Revision Committee of the United States Pharmacopœia the oil was introduced into the Pharmacopœia for the purpose of making four liniments, Mr. Gilmour showed that it was impossible to make ammonia liniment with cotton-seed oil alone. Subsequently he stated at the 1885 meeting of the British Pharmaceutical Conference that the addition of a small quantity of a saponifying oil, such as olive oil, to the cotton-seed oil renders it saponifiable with alkalies. American pharmacists have also given attention to the subject, the latest being Professor Remington, who communicated a paper on the subject to the Pennsylvania State Pharmaceutical Association in reply to the query:—"Does the present [U. S. P.] formula for ammonia liniment produce a satisfactory preparation? If not, what changes are necessary to make it so?" The professor had made various experiments and came to the conclusion that lard oil was the proper thing to use in the proportion of 30 parts of liquor to 70 of lard oil. He found that the addition of a little alcohol materially lessened, but did not entirely prevent, the separation. He further stated that as commercial olive oil, which was formerly directed, consists now mainly of cotton-seed oil, mixed with some olive oil, it cannot be recommended for this preparation; but in making this statement be evidently was unaware of Mr. Gilmour's experiments. It would be curious if it were the fact that the addition of a little cotton-seed oil to olive oil should render the latter unsaponifiable, seeing that olive oil makes cotton-seed oil saponifiable. We believe that there is a good future for cotton-seed oil in pharmacy, and trust that its use for liniments will not be condemned until all means for rendering it saponifiable have been exhausted.

⁂

Technical Instruction. The Government have drafted a Technical Instruction Bill, which, it is understood, they intend if possible to pass this Session. All parties agree as to the necessity of providing means of thorough technical education in all classes of industry if this country is to hold her position in the severe competition which has set in from Germany, Belgium, France, and America within the past quarter of a century. The Bill now introduced may do something towards promoting a more satisfactory provision of opportunities for special education, but it is doubtful whether it will win the favour of the great body of ratepayers. The scheme proposed is that any School Board, or where there is no School Board the municipal authority, may pass a resolution that it is expedient to provide for supplementing by technical instruction the elementary education supplied in its district, and for that purpose to put in force the provisions of the Bill. Any fifty ratepayers may challenge this resolution and demand a poll. If the resolution be not negatived the local authority will have power (1) to provide technical schools for its district; or (2) to combine with any other local authority for the purpose of providing technical schools common to the districts of both authorities; or (3) to contribute towards the maintenance, or to the provision and maintenance, of any technical school; or (4) to make such arrangements as may seem expedient to it for supplementing by technical instruction the instruction given in any public elementary school in its district. As to what is to be included in "technical instruction," that is practically left to the decision of the Science and Art Department. In the Bill it is defined as instruction in the branches of science and art with respect to which grants are for the time being made by that department, or in any other subject which may for the time being be sanctioned by the department; and a "technical school" includes not only a school, but also a department of a school, which is giving technical instruction to the satisfaction of the Department of Science and Art. This department is to administer the Act generally, but no one is to be received into a technical school subsidised by a local rate until such student shall have passed the sixth standard or an examination equivalent to it.

REVIEWS
AND
Literary Notes.

The Year-Book of Treatment for 1886. London: Cassell & Co. 8vo. Pp. 304.

This is a book written by no less than twenty-two contributors, all of whom are specialists in the branches of which they undertake to convey a review of the year's work. These branches or divisions of the volume comprise diseases of the heart, lungs, nervous system, alimentary canal, kidneys; rheumatism and gout; anæmia and the like; children's complaints (surgical and medical); fevers; surgery, orthopædic surgery; genito-urinary and venereal diseases; diseases of women; midwifery; skin, eye, ear, and nose and throat diseases (each by a distinct individual). The 22nd division consists of a summary of the therapeutics of the year. It is not possible to have a complete review of all the work of the year in such a small volume—therefore it is confined to the most important advances. The work is undoubtedly well done, the abstracts being concise and to the point, nor are they altogether allowed to go without editing. All the contributors append either explanatory or critical notes, which add to the value of the abstracts. There are numerous formulas in the Year-Book, amongst which we notice the following *cure for baldness*, proposed by Bartholow:

Ext. pilocarpi fluid.	ʒj.
Tinct. cantharidis	ʒss.
Lin. saponis	℥iiss.

M. To be rubbed into the scalp daily.

The abstracts are drawn from foreign as well as English sources. The Year-Book is specially valuable to medical practitioners, and pharmacists who wish to have all that is recent in medicine in a handy form will do well to give the book a place on their book-shelf.

Aids to Practical Chemistry. By J. Hurd Gordon. London: Ballière, Tindall & Cox. 1887. 12mo. Pp. 66. 2*s*.

This little book describes how a substance containing one base and one acid radicle may be analysed. It is founded upon notes made by the author while he was a student, and shows blemishes such as might be expected of a student. Apart from these, the author succeeds in conveying in a familiar way a correct idea of the characteristics of the substances which are to be met with in simple analysis, and the methods for distinguishing bases and acids from each other are sensible and well arranged. Before another edition is published the booklet should be carefully revised for literal and other errors, which are not entirely absent.

Leaseholds. By James Platt, F.S.S. London: Simpkin, Marshall & Co. 6*d*.

It will be recollected that Mr. James Platt recently directed public attention to the case of a chemist and druggist on the estate of the Duke of Westminster, whose lease having run out, had to find other premises close by, or throw away the good-will he had created after many years of attention to his business. Mr. Platt brought this case before the Committee of the House of Commons on Town Holdings, and then and subsequently has done his utmost to keep the subject alive. Now he presents the whole discussion on this and relative cases, with newspaper articles, speeches, and his own comments, in his usual clear, forcible, and earnest style. It is an important question, and Mr. Platt does a great deal to elucidate it.

The Physiological Effects of Artificial Sleep, with some Notes on the Treatment by Suggestion. By Dr. Mathias Roth. London: Ballière, Tindall & Cox.

In this brief essay (36 pages) Dr. Roth gives a succinct account of some of the extraordinary facts collected under the term hypnotism, including animal magnetism, mesmerism, suggestion, mineral magnetism, metallotherapy, &c. On this borderland between materialism and spiritualism there is vast work for the speculation of medical philosophers, and Dr. Roth's little treatise will help by pointing the way.

Trade Notes.

"New Companies."—In our last number, among the first subscribers to Henry Hodder & Co. (Limited), we omitted the name of Mr. H. W. Carter, Bristol, for 200 shares.

Messrs. Arnott & Button, of the Faraday Chemical Works, Rainham, announce that their London offices have been removed to 7 Fenchurch Buildings, E.C.

Messrs. Bartlett, Hooper & Co. are introducing a new cachou aromatise. The "tiny argent spheres" are of excellent and lasting flavour, and are neatly put up.

Messrs. Dukas & Co., of 20 Red Lion Square, are preparing a special price-list of brushes suitable for chemists' sale.

Messrs. Marion & Co., of Soho Square, have just issued a new and very useful catalogue of photographic material and apparatus, and they supply as a supplement a list of discounts allowed to chemists on all the articles named.

"Rubinat Cordal" is the name of a new natural water with strong aperient properties which is being introduced into this country. It is sent to us from Spain, and an English company has been formed to exploit it.

Messrs. Phillips & Co. (Limited), of Bombay and Poona, have opened an office at 3 West Street, Finsbury Circus, which will be under the management of Mr. B. Phillips, who has returned to England after seventeen years' residence in India.

Silicated Carbon Filters have lately been supplied to the Royal Hospital for Women and Children, Waterloo Bridge Road, and the new examination hall of the Royal College of Physicians and Surgeons, Victoria Embankment, the foundation stone of which was laid by the Queen.

Messrs. Baiss Bros., of London, have purchased the business, in Manchester, of the late Mr. Thomas Shaw, at Walton's Buildings, New Brown Street, Cannon Street, where they intend to keep a varied stock. This branch will be under the management of Mr. J. E. Tomlinson, who has resided in Manchester for the past fifteen years, representing Messrs. Baiss Bros. in the district.

Messrs. Jewsbury & Brown have brought out an artistic "porcelain plaque," with flowers and a sketch of a jar of their Oriental Tooth Paste enclosed in a wreath painted on it. This is a novel and graceful advertisement, and the firm are willing to send one, with a framed show-card and some counter-bills, to any chemist in the United Kingdom who will ask for it, or to the British agents of any foreign or colonial chemist for enclosure.

Henry Lamplough (Limited).—The second annual report of this company shows a gross profit of 10,850*l*. 7*s*. After deducting salaries, advertising, depreciation, &c., there remains a net profit of 4,236*l*. 4*s*. 10*d*. Out of this it is proposed to pay a dividend at the rate of 10 per cent. for the last half-year, making, with the interim dividend paid in January, a total of 10 per cent. for the year, leaving a balance of 203*l*. 14*s*. 8*d*. to be carried forward. The annual meeting is to be held on August 4.

Parke, Davis & Co.—Among the circulars stitched up with this number of The Chemist and Druggist is one of a character a little out of the usual run. It is an illustrated account of the progress of the firm of Parke, Davis & Co., of Detroit. This firm have made a business of scientific pharmacy, and the trophies of their success, such as cascara sagrada, grindelia robusta, guarana, coca, yerba santa, chekan, boldo, jaborandi, &c., indicate at once the enterprise and the intelligence with which their original idea has been carried out.

Personalities.

A Bulgarian Pharmacist.—Among the Bulgarian deputation which went to Vienna the other day to offer the Bulgarian crown to Prince Ferdinand of Coburg was Mr. Nicholas Strausky, a well-known pharmacist carrying on business at Sophia, and brother to Dr. Strausky, member of the present Bulgarian Ministry.

WILLS.

The will of Mr. William Charleson, late of Chapel Street, Bedford Leigh, Lancashire, chemist and druggist, who died on February 2 last, was proved on June 16, at the Liverpool District Registry, by Richard Turner and Nicholas Withington Woodward, the executors, the value of the personalty exceeding 6,500*l.* The testator bequeaths 400*l.* to Richard Battersby, and legacies to his executors and housekeeper. All his freehold and leasehold cottages and the residue of his property he leaves upon trust for his sister, Mrs. Elizabeth Hayes, and her daughter, Phoebe Nancy Hayes.

The will of Mr. Samuel Beardsworth Adamson Maskery, last of West Derby, Lancashire, chemist, who died on May 30 last, was proved in the District Registry of Liverpool, on June 17, by Miss Mary Elizabeth Thompson Maskery, the daughter and sole executrix, the value of the personal estate exceeding 3,000*l.* The testator gives all his property to his daughter alsolutely.

The will of Mr. Thomas John Cutting, chemist and druggist, late of Selby, Yorkshire, who died on May 15 last, was proved on June 25, at the Wakefield District Registry, by Mrs. Mary Cutting, the mother and sole executrix, the value of the personal estate amounting to upwards of 400*l.* The testator gives his share of the business of a chemist, and all the residue of his property, to his mother.

The will and codicil of Mr. Michael Jones, late of the Medical Hall, Chester Street, Flint, chemist, who died on January 8 last, have been proved at the St. Asaph District Registry by Messrs. Kenrick Lloyd Jones, Thomas Rees Jones, and Owen Williams Jones, the sons, the executors, the value of the personal estate exceeding 1,750*l.* The testator bequeaths 19 guineas each to the British and Foreign Bible Society, the Welsh Calvinistic Methodist Home Mission Society, the Welsh Calvinistic Methodist Foreign Mission Society, and the Welsh Calvinistic Methodist Chapel at Flint; and there are bequests and an annuity to his wife. The remainder of his property he leaves to his said three sons.

The will of Mr. Charles Albert George, late of Sheffield, druggist, who died on January 23 last, has been proved at the Wakefield District Registry by Mrs. Mary Ann George, the widow, and Mr. Robert Ibbotson, the executors, the value of the personal estate being under 1,200*l.* The testator bequeaths 800*l.* upon trust for his wife for life and then for his children; and gives all his household furniture and effects to his wife.

The *Lancet* publishes particulars of the following:—

The will of Mr. William Chapman Begley, M.R.C.S. and F.R.C.P. Lond., late of 26 St. Peter's Square, Hammersmith, was proved on June 27, the value of the personal estate exceeding 6,000*l.*

The will of Frederick John Hensley, M.D., late of 10 Coleherne Road, South Kensington, was proved on June 19, the value of the personal estate exceeding 1,600*l.*

The will of Mr. John Chatto, M.R.C.S., librarian to the Royal College of Surgeons of England, late of 3 Chapel Road, Notting Hill, was proved on June 18, the value of the personal estate exceeding 3,000*l.*

The will of John Henry Cook, M.D., late of 44 Chepstow Place, Bayswater, was proved on June 14, the value of the personal estate exceeding 6,000*l.*

The will of Charles James Bracey, M.B., F.R.C.S., late of 155, Hagley Road, Edgbaston, Birmingham, was proved on June 1, the value of the personal estate exceeding 5,000*l.*

The will of John Vaux, M.D., late of Chestergate, Macclesfield, has been proved at the District Registry of Chester, the value of the personal estate amounting to upwards of 3,000*l.*

The will of William Murray, M.D., late of Burley, near Otley, Yorkshire, has been proved at the Wakefield District Registry, the value of the personal estate amounting to upwards of 3,500*l.*

The will of Mr. John Hurd, late of Yatton, Somersetshire, surgeon, was proved on June 4, the value of the personal estate exceeding 1,000*l.*

The Scotch confirmation, under the seal of the Commissariat of Fife, of the trust disposition and deed of settlement of William Traill, M.D., late of Woodwick, was resealed in London on July 11, the value of the personal estate exceeding 4,000*l.*

Obituary.

[*Notices of Marriages and Deaths are inserted free if sent with proper authentication.*]

Arton.—On July 5, Mr. Richard Arton, chemist and druggist, Preston Street, Hulme, Manchester. Aged 82.

Barnes.—On July 6, Mr. Bryan Barnes, chemist and druggist, St. Peter's Street, Derby. Aged 57.

Brailey.—On June 29, Mr. Charles Brailey, pharmaceutical chemist, Heavitree, near Exeter.

Dick.—At 27 Danube Street, Edinburgh, on the 20th inst., Robert Gibson Dick, Ph.C., third and last surviving son of Mr. A. L. Dick, 7 Abercorn Terrace, Portobello.

Grundy.—On June 24, Mr. Edwin Grundy, chemist and druggist, Sneinton, Nottingham. Aged 69.

Hall.—On June 18, Mr. Thomas Hall, chemist and druggist, Breckfield Road, Liverpool. Aged 54.

Hickman.—On July 11, at 11 Loughborough Park, Brixton, Mr. G. N. Hickman, aged 92, for 72 years foreman in the brush factories of Messrs. Kent, of 11 Great Marlborough Street; highly respected by all who knew him.

Hipkins.—On July 1, Mr. Stephen Hipkins, chemist and druggist, Prince's End, Staffordshire. Aged 70.

Houghton.—On June 11, Mr. Thomas Houghton, pharmaceutical chemist, High Street, St. Clement's, Oxford. Aged 74

Milton.—On June 19, Mr. Reuben Milton, chemist and druggist, High Street, Exeter. Aged 68.

Slack.—On June 24, Mr. William Slack, chemist and druggist, Doncaster. Aged 72.

Smith.—On June 2, Mr. Robert Smith, chemist and druggist, Newport, Isle of Wight. Aged 60.

Soole.—On June 28, Mr. John Henry Soole, chemist and druggist, Compton Street, London. Aged 61.

Thomas.—On June 15, Mr. Henry William Thomas, chemist and druggist, Aberporth, Cardiganshire. Aged 76.

Verdin.—Mr. Joseph Verdin, M.P. for the Northwich Division of Cheshire, died on Monday last from angina pectoris. It is considered that the work of the House of Commons had seriously aggravated his complaint. Mr. Verdin was senior partner in the firm of Joseph Verdin & Sons, salt manufacturers, of Winsford, Northwich, and Liverpool. He was a commissioner for the Upper Mersey, chairman of the Salt Association and of the Winsford Local Board, and a trustee of the River Weaver. Mr. Verdin had twice competed with Mr. J. T. Brunner (Brunner, Mond & Co.) for the seat. In 1885 Mr. Brunner won it by a majority of 1,028, but in 1886 Mr. Verdin, who stood as a Liberal Unionist, had a majority of 658.

Watson.—On July 9, Mr. Samuel Watson, chemist and druggist, High Street, Hounslow. Aged 39.

Woodward.—On July 16, at Cheltenham, Frances Jane, wife of Solomon Woodward, chemist, and youngest daughter of the late Mr. William Busson, of Her Majesty's Mint. Aged 49.

Legal Reports.

APOLLINARIS WATER.

APOLLINARIS COMPANY (LIMITED), *v.* APOLLO WATER COMPANY (LIMITED).—This action came, on Tuesday, before Mr. Justice Kekewich. Mr. Warmington, Q.C., and Mr. J. Cutler appeared for the plaintiffs, and the defendants were unrepresented.—The action was brought to restrain the defendants, first, from trading as the "Apollo Water Company," and, secondly, from selling mineral water, not of the plaintiffs' manufacture, under the name of "Apollo." The plaintiff company were incorporated in 1873, and in 1876 registered their trade-marks, one the name "Apollinaris," and the other a design of a natural spring in the middle of the Black Forest. The water was sold under the names of Apollinaris, Apollo, Apol, &c., the annual sale being about eight millions of bottles. The defendant company importing mineral water from Henry Hürter in the Rhenish province of Prussia, called itself the "Apollo Water Company," and contested with the plaintiffs the right to the exclusive use of the name Apollinaris. Hürter's application to remove the plaintiff company's trade-mark was, however, dismissed by the Court. Evidence having been given to the effect that the plaintiff company's "Apollinaris" was largely sold to chemists in this country, and that the existence of a company trading as the Apollo Water Company would seriously interfere with the plaintiffs' business, his Lordship granted an injunction as asked, and gave the plaintiffs their costs.

LAW OF LIMITED LIABILITY.

IN the House of Commons on Monday Mr. J. M'Lean asked whether the Government had a Bill prepared for amending the law of limited liability; and whether, supposing they had abandoned the intention of passing such a Bill into law this session, they would introduce it in the House of Lords, so that its provisions might be fully discussed by the mercantile community during the recess.

Mr. W. H. Smith: This subject has engaged the serious attention of the Government, and a Bill has been drafted, but the hon. member is aware that it is a subject of very great difficulty, and under all the circumstances the Government do not think it desirable to legislate upon it in the course of the present session.

ANILINE LITIGATION.

A LONG series of actions between the Badische Anilin and Soda Fabrik *v.* Levinstein & Co. was concluded on Tuesday last by the decision of the House of Lords (the Lord Chancellor, with Lords Herschell and Macnaghten).

The action was brought by the Badische Anilin and Soda Fabrik against Levinstein & Co. in respect of the alleged infringement of one of their patents for "improvements in the production of colouring matters suitable for dyeing and printing." The principal claim of the patent was for "the production of red and brown colouring matters, which in chemical language may be termed the sulpho-acids of oxyazonaphthaline, by the action of the diazo compounds which may be prepared from naphthylamine, or from the sulpho-acids of naphthylamine upon any of the isomeric naphthols, or of mixtures of the same, or upon any of the sulpho-acids which may be prepared from either alpha-naphthol, or from beta-naphthol, or from mixtures of the same, substantially by the process above described." Levinstein & Co. denied that they had infringed the appellants' patent, and impeached its validity on three grounds—first, that the invention was not new; secondly, that it was not useful; and thirdly, that the specification did not sufficiently ascertain and describe the nature of the invention. The action was tried before Mr. Justice Pearson, who decided all these points in favour of the claimants. In the Court of Appeal the Lords Justices were divided in opinion. Lord Justice Bagallay agreed with Mr. Justice Pearson; but the majority, Lord Justice Fry and Lord Justice Bowen, being of the opinion that the patent was not valid, the judgment for the plaintiffs was reversed, and judgment entered for the defendants. The House of Lords now found the issues submitted to them all in favour of the plaintiffs, and the judgment of the Court of Appeal was therefore reversed with costs.

CHEMICAL PATENTS.

IN the Chancery Division of the High Court of Justice, London, on Wednesday, Mr. Justice Kekewich had before him the matter of A. G. Kurtz & Co. *v.* Spence & Sons. It came on in the form of a motion, made on behalf of the plaintiffs, for leave to amend their statement of claim by inserting a plea to the effect that the defendants' patent was invalid. The plaintiffs are chemical manufacturers at St. Helens, and the defendants are chemical manufacturers at Manchester. The defendants' own letters-patent, dated August 11, 1882, for "improvements in the manufacture of alum and other salts of alumina," and the plaintiffs are owners of other letters-patent, dated August 12, 1882, granted to one Josiah W. Kynaston, for "an invention for improvements in the manufacture of certain chemicals, and in the purification from iron." The plaintiffs had, under their patent, manufactured and sold sulphate of alumina, and the defendants allege that the use of the Kynaston patent is an infringement of their prior patent, and had threatened the plaintiffs with legal proceedings in respect of such manufacture. The plaintiffs, on the other hand, allege that Kynaston's invention is entirely different from defendants' patent, and was no infringement of it. The defendants had not withdrawn their threat of legal proceedings against the plaintiffs, but had not commenced any action. In these circumstances the plaintiffs claimed an injunction to restrain the defendants from using threats. The defendants contend that Kynaston's patent is an infringement of theirs, admit they have threatened to take legal proceedings with respect thereto, and assert they have just cause for doing so, as they have suffered loss by what the plaintiffs are doing.

Mr. Moulton, Q.C., and Mr. Lawson were the counsel appearing for the plaintiffs. Mr. Aston, Q.C., and Mr. C. E. Jenkins, represented the defendants.

Mr. Aston took a preliminary objection to the motion, but

His Lordship thought he should like to hear some of the facts of the case before deciding the point, which had reference to Mr. Justice Chitty having already decided that an allegation that the defendants' patent was invalid was improper, because it was always assumed, until the contrary was proved, that a patent was valid, otherwise it would not have been granted.

Mr. Moulton said the action was brought by his clients against the defendants to restrain them from threatening persons, the plaintiffs amongst others, from using the process of which his clients were the assignees, on the ground that it was an infringement of defendant's patent. The action was brought under section 32 of the Patents, Designs, and Trades-Marks Act of 1883, which gives a right of action to anyone aggrieved by threats to recover "such damages, if any, as may have been caused thereby if the alleged manufacture to which the threats relate is not, in fact, an infringement of any legal right of the party making the threats." The strict meaning of those words had led to a good deal of discussion, and in the plaintiffs' statement of claim as originally framed there was an allegation that Spencers' patent was invalid, and that the plaintiffs' use and manufacture of their patent was not an infringement of any patent belonging to the defendants. The defendants moved to strike out that part of the statement of claim, and Mr. Justice Chitty took the view that the plaintiffs could not question the validity of the defendants' patent, that it must until the trial of the action be assumed to be valid, and struck out the words. He (Mr. Moulton) admitted that in substance he was seeking to undo what Mr. Justice Chitty had done. He submitted, however, that the preliminary objection failed, as he was applying under Order 28, Rule I., which said that a court or judge might at any time before trial allow either party to amend their pleadings upon such terms as might be considered just by the court or the judge.

Mr. Justice Kekewich: How can I reverse the decision of Mr. Justice Chitty?

Mr. Moulton said his application was for leave to amend under the order he had just named, so that the real question between the parties might be raised. It was not an appeal from anything, but an application under the 28th rule of the Judicature Act.

His Lordship, without calling upon the defendants' counsel, decided that he could make no order upon the motion, as he would be virtually upsetting the decision of his brother judge.

Mr. Moulton said his clients desired to take the opinion of the Court of Appeal, and asked whether the other side would have any objection to his applying at once.

Mr. Aston said he would do anything in his power to advance the hearing of the cause.

After some further observations, his Lordship said that the costs of the day must be the defendants' in any event.

Later in the day Mr. Moulton applied to the Court of Appeal—composed of Lord Justices Cotton, Bowen, & Fry—for the purpose of taking their opinion on Mr. Justice Kekewich's decision in the court below; but their Lordships declined then to hear any appeal, on the ground that it would not be fair to other suitors, who would suffer inconvenience thereby.

BANKRUPTCY REPORTS.

Short, Short & Deykin.

On Tuesday the public examination of the debtors was held before Mr. Registrar Linklater. The debtors are described as merchants in Queen Victoria Street and at Birmingham, and they also traded as newspaper proprietors in Fleet Street under the style of the *British Mercantile Gazette.* Their joint liabilities were returned in the statement of affairs at 93,429*l*., of which 63,461*l*. are expected to rank, with assets 20,776*l*.; and they attributed their failure chiefly to heavy losses by bad debts, including a sum of 25,276*l*. lost in Batavia though the indiscretion, as they alleged, of their agent in that country. At the first meeting the creditors entertained a scheme by which the property became vested in a trustee; the executors and beneficiaries under the will of Mr. Thomas Short, deceased, creditors for about 20,000*l*., agreeing to stand aside until all the other creditors had received 5*s*. in the pound, the executors then receiving 4*s*. 6*d*. in the pound, and any further property to be divided rateably among the creditors.

In 1883, when Mr. Deykin joined the firm, the business was solvent, and the surplus capital amounted to about 20,000*l*., which included, however, debts to the extent of 16,000*l*., then considered to be good, but which had since proved bad. At that time there was no reason to doubt the value of the debts. The Batavian loss and a loss of 9,000*l*. on trade journals accounted mainly for the deficiency.

Mr. Saxelby, on behalf of a large body of creditors, having explained that the debtors' affairs had been thoroughly investigated, and the creditors were satisfied,

His Honour allowed them to pass their examination.

Joseph Laing, Stapenhill, Derbyshire, Druggist.

A first meeting of the creditors of Joseph Laing, drug and general storekeeper, of Rosliston Road, Stapenhill, was held at the White Hart Hotel on Thursday, Mr. Smith (Official Receiver) presiding. The debtor's statement of affairs showed unsecured creditors to the amount of 428*l*. 13*s*. 9*d*., and preferential claims 51*l*. 1*s*. 7*d*. The assets, consisting of stock, fixtures, and furniture, estimated to have cost 219*l*., but expected to produce 191*l*. 10*s*., and book debts 18*l*. 18*s*. 5*d*., were put down at 210*l*. 8*s*. 5*d*., leaving a deficiency of 269*l*. 5*s*. 11*d*. The estate was left in the hands of the Official Receiver for summary administration.

What is Odour.—That odour is, like light and sound, a phenomenon of undulation is the belief of M. P. Leclerc. He urges that it is more reasonable to suppose that the odours produced by rubbing certain substances—like sulphur and copper—are due to the waves set up than that the rubbing causes matter to be emitted which cannot be detected except as a smell. The garlic-odour of heated arsenious acid is a smell accompanying chemical action the same as in many other cases we have light or heat in connection with it. With somewhat imperfect apparatus M. Leclerc claims to have produced interference of odours analogous with the interference phenomena of light.

Gazette.

PARTNERSHIPS DISSOLVED.

Bellamy & Wakefield, Birmingham, druggists and grocers.

Harrison, J. W. & A. (under the style of J. W. Harrison), Headingley, Leeds, chemists and druggists.

Hoyle & Wright, Keighley, ale and porter merchants and aërated-water manufacturers.

THE BANKRUPTCY ACT, 1883.

Receiving Orders.

Clarke, Richard Thomas, Milton-next-Gravesend, chemist and druggist.

Owen, Robert Edward, Beaumaris, general medical practitioner.

First Meetings and Public Examinations.

Clarke, Richard Thomas, Milton-next-Gravesend, chemist and druggist. Aug. 2, Official Receiver's Office, Rochester; Aug. 11, Court House, Rochester.

Hogben, Thomas, Hawkinge, near Folkestone, veterinary surgeon. Aug. 3, 73 Sandgate Road, Folkestone; Aug. 5, Guildhall, Canterbury.

Adjudications.

Bradbury, Samuel William, New Oxford Street, late of Philip Lane, City, and Walton-on-Thames, Llandovery, and Birkenhead, commercial traveller, late licensed victualler, and formerly sheep-dip manufacturer

Laing, Joseph, Stapenhill, Derbyshire, drug and general store keeper.

Notices of Dividends.

Bunnell, Jonathan, Middleton, Lancashire, late of Altrincham and Oldham, veterinary surgeon. First and final div. of 3*s*. 3⅙*d*., July 25, Official Receiver's Offices, Manchester.

Garrett, Charles Frederick, Southsea, surgeon. First and final div. of 5*s*. 9*d*., Aug. 8, 166 Queen's Street, Portsea.

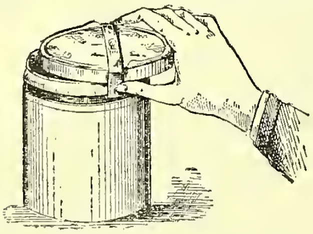
Strawson, Vincent (also trading as Strawson & Co.), Liverpool, chemist and druggist and soda-water manufacturer. First div. of 8*d*, any day, Mr. G. Mahon's, 26 North John Street, Liverpool.

Wilson, John, Pudsey, Calverley, Yorkshire, physician and surgeon. First and final div. of 1*s*. 11⅛*d*., Aug. 2., Official Receiver's Chambers, Bradford.

A Find of Asphalt.—In Alabama a large deposit of asphalt has recently been discovered, which opens up an entirely new and rich industry in that State. The deposit is located in Morgan county, a few miles from Birmingham, and close to the Louisville & Nashville Railroad, which will make shipment to market cheap and practicable and probably cause the asphalt industry to become a prominent factor in Alabama's prosperity. Asphalt, though a common article of commerce, is found in but few places where it can be profitably turned to account. The supplies of the world have for years been drawn from the great Asphalt Lake on the island of Trinidad, which is the greatest deposit known. Alabama enjoys the distinction of being the only section of the United States in which asphalt has been found in paying quantities. The asphalt from Morgan county has been subjected to chemical examination, and is said to be purer and finer than that brought from Trinidad, it reaching a purity in its native state of 81·31 per cent., the remainder being sandy matter. No difficulty will be experienced in refining the article for paving, and even for the manufacture of varnishes and lubricating oils. A company has been formed to work the deposit in a large way.

SEWARD'S LOCK-STOPPED POTS.

An ordinary tie-over pot is fitted with a metal cover lined with a compressible and indestructible material; there is a bar across the top which catches the groove of the pot, so that when the lid is on it seems a puzzle to get it off. This, however, is a very simple matter. The illustration shows either the removal or placing on of the lid. To slide it on, the bar is slightly raised, as shown, and the catch ends pushed into the groove, the lid slips on, and is secured by twisting the bar to the right of the projections. By operating in the reverse way the lid is removed. The pots are perfectly air-tight, and are made of Devonshire clay, also in white Staffordshire ware, in sizes from ½ oz. to 32 oz. They can also be made in any shape or size as regards the body of the vessel. For extracts, ointments, confections, and similar substances they are a great improvement upon the old-fashioned tie-over pots, and superior in some respects to covered pots, and are applicable for either wholesale or retail purposes. The makers are Messrs. Seward & Spencer, 54 Stamford Street, S.E.



BROMIDINE: A NEW DISINFECTANT.

The most recent researches have conclusively proved that corrosive sublimate and the haloid elements (chlorine, bromine, and iodine) are the most energetic antiseptics. Advantage has been taken of this fact by the extensive use in surgery of corrosive sublimate, which has to a large extent replaced carbolic acid; but for other reasons apart from its poisonous character it has not and is not likely to come into regular use as a disinfectant. It is not in the strict sense of the term a deodoriser, and disinfectants to be popular must possess that property. Chlorine in the form of chlorinated lime has long been in use as a disinfectant, but it is evolved so quickly from the lime compound that its use is more an annoyance than a benefit. Iodine is the opposite of this—it is too slow in action. Bromine has also disadvantages: it is a dangerous liquid to handle, its vapour, if the exhalation is not controlled, is far from being pleasant, and this hitherto has been the chief objection to it. Various means have been proposed to overcome this objection. Some years ago Dr. Frank proposed compressed bricks of infusorial earth saturated with bromine, but this idea has not been further heard of. Mr. W. D. Borland appears to have solved the problem in the combination "Bromidine," for which he has taken out Letters Patent, and Messrs. May & Baker have undertaken the manufacture of the preparation. It is a combination of bromine salts with a harmless and soluble diluent and liberator. The preparation dissolves perfectly in a little more than its own weight of cold water, the solution acquires a yellow colour. Bromine vapour is slowly evolved from it, either on damping or heating. For example, if a layer of it be exposed to the air of an apartment, very soon a fresh, seaside-like odour shows that the bromidine is giving off its active constituent, and although the powder is thus exposed for weeks the odour does not change from its pleasant freshness. The humidity of the atmosphere is in this case the direct liberator, and when a more copious evolution of bromine vapour is required (as, for example, in disinfecting rooms after fevers), the powder is moistened with water. As a deodoriser and antiseptic we find bromidine to be a most active agent, and as its applications are more numerous than other popular disinfectants, we expect that it will take a leading place in public favour. Bromidine is put up in bottles, the 12-oz. size retailing at 1*s.*

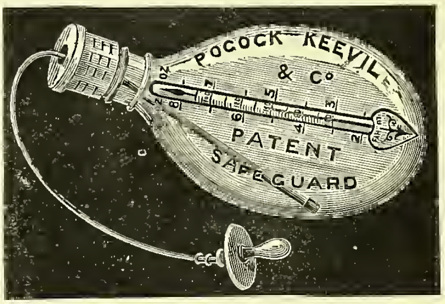
FLETCHER'S NEW LIQUORS.

It will be noticed, from the announcement made in this issue, that Messrs. Fletcher, Fletcher & Stevenson are placing upon the market a new series of concentrated liquors. These are intended for the preparation of decoctions, infusions, and tinctures; for example, the liquor quassiæ may be used for making both the infusion and tincture of that drug. Obviously this is a great advance in this line of pharmacy, and the improvement is one which is likely to be taken advantage of by the trade. The makers claim that the method of preparing the liquors is such that the full activity as well as the aroma of the drugs is retained. This is a point upon which we shall have more to say in a future issue.

TURTLE-SOUP TABLETS.

Messrs. Newbery & Sons have taken the agency for a very good novelty from Jamaica. The turtle tablets are prepared at the "Preserved Turtle Factory," Kingston, Jamaica, from turtle freshly caught. They are supplied in solid cakes, packed in air-tight clasped metallic boxes. Each tablet sells retail at 1*s.* 6*d.*, and makes a pint of genuine turtle-soup. Nothing can be more nourishing than good turtle-soup; but until these tablets were introduced it was either too costly or too much adulterated to be possible for the million. Now it can be produced at a very moderate cost; and with the slight adjuncts recommended—a pinch of salt, a squeeze of lemon-juice, and a glass of sherry—the tablet offers a delicious addition to the dinner table.

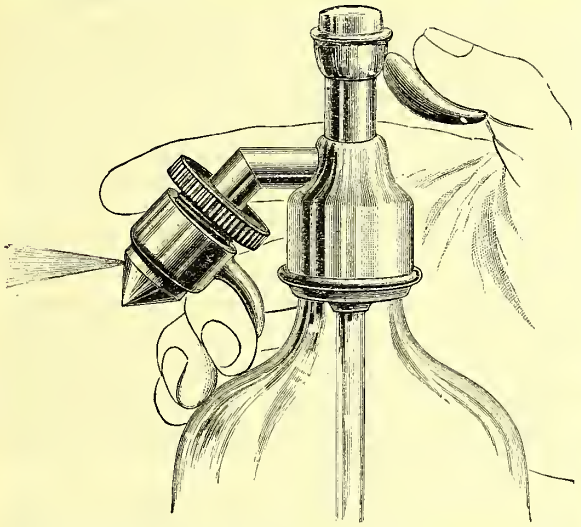
SAFEGUARD FEEDING-BOTTLE.

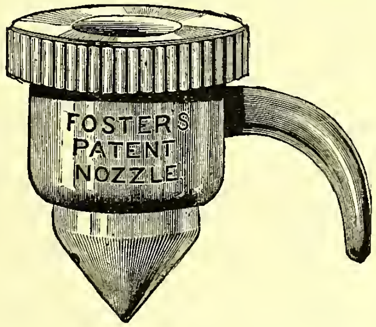


This bottle is graduated into ounces, and a thermometer is inserted in the upper surface, so that the temperature of the milk may be noted before it is given to the child. The proper temperature (98° F.) is indicated on the thermometer by an arrow. Herein the feeding-bottle is a "safeguard," and there are no doubt many people who require such a device. But the bottle has other uses. It will indicate the temperature of the sick-room, or of the bath, so that houses which cannot boast of a baby can now indulge in a feeding-bottle. The makers are Messrs. Pocock, Keevil & Co., 74 Wandsworth Road, S.W.

FOSTER'S FIRE-EXTINGUISHING NOZZLES.

We append drawings showing the clever invention by which Messrs. Barnett & Foster convert an ordinary syphon of aërated water into a fire-extincteur. The nozzle when fitted to the syphon can be made to discharge a very fine stream of carbonated water, and the effect on an incipient fire is remarkable. Druggists who sell syphons could easily induce customers to always keep by them one of these simple arrangements. Nothing can be simpler than the manner of using it. The nozzles are priced to sell retail at 1*s.* 6*d.*





SOUTHALL'S NOVELTIES.

Messrs. Southall Bros. & Barclay, of Birmingham, are offering several interesting specialities, which we have examined. These are the following:—

Petroleukine.—This is a snow-white soft paraffin of unusually high melting-point, viz. 120° Fahr. It is therefore specially adapted to hot climates. Although of so high melting-point the unguent is homogeneous and free from crystals, and it is also free from odour.

Depilatory Soap.—This is a novelty which is certain to take. It requires no preparation previous to application, being in the form of a soft and smooth paste, which is simply applied to the skin along with a drop of water. It is a wonderfully effective preparation, neatly put up in small old-fashioned bottles.

Southall's Laxative Liver Pills are composed of cascara sagrada and podophyllin—a good combination, presented in a palatable form.

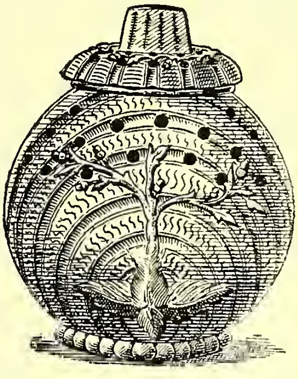
Mosquito Cones are as obnoxious to flies and other insect pests as to mosquitoes. There are two dozen cones in each box. When burnt the cones diffuse a pleasant odour. This is a sensible and saleable article for the summer season.

LINOLEUM SOAP.

Messrs. W. D. Harry & Co., of the Imperial Linoleum Works, Deptford, have made a soap specially adapted for cleaning linoleum or paint. It is sold in large sixpenny tablets, and is a very good soap, with a "brown Windsor" perfume and appearance, and quite capable of being used on the human skin without in any way injuring it. Its peculiarity is that it is of more oily character than ordinary soap.

TEROZONE AIR-PURIFIER.

In order to provide an effective means of utilising the valuable aromatic and air-purifying properties of eucalyptus, Messrs. Whitaker & Grossmith have combined it with an earthy basis under the name of "Terozone." This is supplied in elegant porcelain jars, which, being perforated, allow of the gradual diffusion of the pleasant and healthful odour. The filled jar sells at 1*s.* 6*d.*, but the "Terozone" powder can also be obtained for refilling the jars in 6*d.* packets.



Extract of Meat Suppositories.

In an article on rectal alimentation by suppositories, by Dr. S. W. Gadd, in the *Therapeutic Gazette*, the following is the method advised for making extract of meat and suppositories therefrom:—To 16 oz. avoirdupois of finely-minced beef, off the rump, add 1 pint of water and 2 fluid oz. of liquor pancreaticus (Benger's) and 1 drachm of sodium [bi]carbonate. The mixture should be kept at a temperature of about 120° to 140° F., with occasional stirring, from four to six hours, adding water from time to time as it becomes lost by evaporation. Then throw the whole upon a strainer and express with gentle pressure. Neutralise the filtrate with hydrochloric acid in a porcelain dish, and, with a moderate degree of heat, evaporate down to the consistence of an extract, or, better, to dryness, if it can be accomplished without a high degree of heat. This extract of meat will keep well in a closed vessel, and represents thoroughly, if made with care, the nutritive value of the meat. The amount of extract obtained varies from 290 grains to 450 grains to the pound of beef used. This extract may be made into suppositories with cacao butter or glycogelatin, which is made by taking 1 oz. of gelatin, soak in 1 oz. of water until the whole of the water has become absorbed, and dissolve in 3½ fluid oz. of glycerin by means of a water-bath, and allow the mass to cool and solidify. The following is the general formula:—

Extracti carnis pancreatici .. .. .. gr. c.
Olei theobromæ vel glycogelatinæ.. .. q.s.
Ft. suppositor. x.

The amount of ol. theobromæ or of glycogelatin can be regulated to the size of the suppository-mould. The addition of a little white wax enables more extract to be incorporated with ol. theobrom. without materially affecting the melting-point. There is an important point to be observed in the use of suppositories of any kind, namely, that of oiling them before introducing them. This is more essential with those made with glycogelatine than those made with cacao-butter.

THE TURKISH OPIUM CROP.

THE estimates of the opium crop in Asia Minor are sinking lower and lower as the supplies arrive at Smyrna from the interior. A few weeks ago there was yet a prospect that the harvest would yield a total of 2,500 cases, but subsequently 2,000 cases were spoken of as the maximum. Last week the estimates further declined to 1,800 cases, and now, according to the latest reports from Smyrna, it seems doubtful whether even that figure, which would be the lowest on record for very many seasons, will be reached. The smallest crop of recent years was that of 1880, when only slightly over 2,000 cases were gathered, and the price of fine druggists' opium rose to 27*s.* per lb.—a figure far in excess of that now quoted.

This year of scarcity was followed by one of abundance, the 1881 crop being the largest known for many years. Since then the crops have generally exceeded the average yield, which is considered to be 5,000 cases of about 150 lbs. each. The inland provinces of Asia Minor, whence most of our opium is obtained, are not regions from where it is at all easy to obtain reliable information, and such news as reaches our market thence has to pass through the censorship of Smyrna or Constantinople houses, who take good care to impart to the intelligence what colour they deem best calculated to further their interests.

This season, however, the drought which visited the opium-growing districts was so severe, and caused so much suffering, that details were communicated to the outside world in appeals for assistance from religious and other bodies, and it was therefore perfectly well known, from independent sources, that there would be a very short supply of all produce from Asia Minor this year. But it is the inveterate habit of speculators to overstate their case and, in their anxiety to impress buyers with their views, to run up prices to an extent utterly unwarranted by the actual facts of the situation. In 1880, for instance, the shortness of the crop was taken advantage of by a syndicate of American speculators, who planned a complete corner in the drug. Whatever may have been the result to the leaders of this movement, it is certain that many smaller operators, who, attracted by the apparent certainty of gain, were enticed into opium speculations, found themselves in the lurch when the prospects of the succeeding crop became known. Intending speculative purchasers of opium or its products will therefore do well to look before they leap, and, while recognising the exceptionally favourable position of the article, to take heed lest they overreach themselves in their operations. It is impossible to gauge with certainty the quantity of old crop opium left in Turkey, England, and America; but however much there may be, holders will naturally, under the circumstances, be somewhat stiff, and they may, therefore, and probably will, succeed in raising the price of the drug considerably above that at which it stands at present. The failure of the Turkish opium harvest this season has inordinately affected the druggists' varieties, of which only about 800 cases are said to have been gathered, as compared to 5,600 cases in 1886. Of "soft shipping" opium, about 1,000 cases have been obtained this season, against about 2,000 cases last year. The opium business on the London market has lately been very restricted, and there is a fair supply of old crop, both here and in the Levant. The new opium is now gradually arriving at Smyrna from the producing districts. Up till July 15, 79 cases had been received there from Asia Minor, and 26 cases from Salonica; but Smyrna holders complain of the absence of orders from England and America, in consequence of which business is entirely confined to local speculation. At the same time they profess the utmost confidence that the export demand will revive as soon as the actual yield shall have ceased to be a matter of conjecture, however well founded, and they appear unanimous in anticipating a fresh rise within a very few weeks.

THE AMERICAN MARKETS.

NEW YORK, July 15.

SINCE last report there has been a good demand for drugs, much better than could have been expected at this, the dullest time of the year. The export inquiry, especially from Germany, is improving.

The prices sterling (in parentheses) are what the different articles would cost delivered in London, all market allowances, discounts, &c., being taken into account. Importers can therefore see at a glance the course of this market compared with their own.

ALOES (CURAÇAO).—Small arrivals, both in boxes and gourds, took place, and readily found purchasers at advanced rates. Good dark livery quality is quoted 6c. (34*s.*) in cases.

BALSAMS.—Owing to further arrivals of *Copaiba* the market has again declined, and, if Hamburg had not stepped in and bought up the Maracaibo balsam, it is probable that that variety would be still unsold; the price paid is understood to be 32½c. (1*s.* 5½*d.*). Pará also came to hand in quantity, and declined to 35c. (1*s.* 7*d.*). *Tolu.*—The last steamer brought 15 cases, which sold for 31c. (1*s.* 4¾*d.*); second-hand holders are now quoting 34c. (1*s.* 6½*d.*). The demand is from the chewing-gum manufacturers.

CASTOREUM.—There is very little to be had here: no supplies are expected till December and January; most of what comes to this market now is brought from Alaska.

CHICLE.—The demand keeps up and higher prices rule, 36c. (1*s.* 7½*d.*) being now the market.

GUARANA.—Nothing has been done; there is ample stock here, but it is firmly held at $1.05 (4*s.* 9*d.*) in bond. The season for arrivals being over, and stock at Pará reported small, it is thought no great reduction can be expected if the consumption is up to that of former years.

IPECACUANHA.—Consignments are reported on the way from Rio, so that prices in this market may be lower before long.

OILS (ESSENTIAL).—*Wintergreen* has bebome quite scarce, and for genuine oil $2.00 (8*s.* 9*d.*) has been paid. *Sassafras* is firm at 36c. (1*s.* 7¾*d.*); *Spearmint*, $5.00 (22*s.* 6*d.*). *Oil of Peppermint.*—We are about to visit the growing districts, and will report fully on the prospects in a mail or two.

QUININE is, if anything, weaker; the consumptive demand is good and keeps enlarging—but so also does the desire of speculators and others to sell.

ROOTS.—*Jalap* is dearer; nothing can be had under 10½c. (6*d.*), this being new root; for old, 12c. (7¼*d.*) is demanded. *Golden Seal* has declined to 16c. (9*d.*). *Senega.*—The low price has brought about large inquiry, and further large sales took place at about 30c. (1*s.* 6½*d.*) for good Minnesota root. The Manitoba root may be expected soon, and if the usual difference in price is established this year it will probably rule at 28c. (1*s.* 5½*d.*).

SARSAPARILLA (MEXICAN).—The Philadelphia house who tried to control and "corner" this article suspended payment this week; it is not known yet what will be done with their stock, but probably it will be sold in one lot. As it is said to have cost them 8c. (4½*d.*) to import, it will be seen there could be nothing in it at the figures lately ruling, viz., 7¼*d.* The price was put at this low rate to drive other firms out of the importing trade.

THE entertainment programme of the Missouri States Pharmaceutical Association contained such items as a "weird and grotesque parade of the Oriental Order of Veiled Pillmakers" (not lady pharmacists); two races for fat men and a search for the hat.

Trade Report.

Note to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 Cannon Street, E.C., July 28.

BUSINESS has been of a rather quiet character this week, and in anticipation of the coming Bank Holiday transactions are very few. The drug sales were unimportant, and characterised by extreme languor. Many articles, such as gamboge, myrrh, rhubarb, senna (of which the new crop is now arriving), ipecacuanha, and cardamoms, were quotably lower, and against these reductions there was scarcely any set-off in the shape of an advance. The better varieties of gum arabic are commanding higher prices, but low grades are much neglected. Essential oils of star-anise and cassia have become very dull again. American peppermint has fallen in value, a good crop being expected. Shellac is also slightly cheaper again, and Japan wax tends somewhat lower. It is reported that the harvest of cantharides will be a short one in Russia, and there is also a movement in jalap, but thus far our market has not been much affected. The hot weather has caused some chemicals, such as permanganate of potash, cream of tartar, and soda crystals, to improve their position, while citric and tartaric acids remain very firm. Glycerine is again a shade dearer, and an advance has occurred in quicksilver, which will probably affect all mercurials shortly. The iodine Convention have again raised their price to 9*d*. per oz., and iodides have therefore come back to their old position. Italian essential oils are firmer, and the reports of the opium crop are becoming more alarming every day, although business in that article is, for the moment, of a very restricted character.

At a meeting of the chemical section of the London Chamber of Commerce on Wednesday, Mr. T. Tyrer in the chair, it was resolved to memorialise the Government (1) recommending greater publicity in regard to tenders for and prices of chemicals supplied to the departments; and (2) advocating a system of drawback on spirituous tinctures prepared in the United Kingdom and exported.

ACID (CITRIC) is rather quieter, and quotations in the absence of business are somewhat nominal, say 1*s*. 8¾*d*. per lb.

ACID (TARTARIC) is firm and scarce on the spot, but there is not much business doing just now. *English* is held at 1*s*. 7½ and *foreign* at 1*s*. 7¼*d*. per lb.

ALOES.—Only 98 cases *Cape* aloes were offered at to-day's drug sales. Nearly the whole of this supply was of very common quality, and the bulk of it was sold at low rates, from 19*s*. to 20*s*. per cwt. for a few fair but rather drossy, down to 7*s*. per cwt. for the lowest lots. Of 496 packages *Curaçao* aloes, the greater part was sold, some lots "without reserve," at 54*s*. to 60*s*. for very fair to good livery, 38*s*. to 42*s*. for dark red and rather drossy, and down to 11*s*. per cwt. for cindery stuff. Twenty-five kegs good brown, somewhat soft *Socotra* were sold at 6*l*. 12*s*. 6*d*. to 7*l*. 2*s*. 6*d*. per cwt.

ALUM is rather neglected, but the prices are unchanged, viz., 5*l*. 10*s*. per ton for lump, and 6*l*. for ground alum.

AMBERGRIS.—A few tins were shown, but they included nothing very nice, the best being soapy and rather deep in colour. The whole was bought in.

AMMONIA COMPOUNDS.—*Carbonate* remains neglected at 4*d*. per lb., less a discount. *Salammoniac* is still held at 36*s*. for first, and 34*s*. per cwt. for second quality. *Sulphate* is a shade easier, but closes firm at 12*l*. 10*s*. per ton for 24 per cent. grey in London, and 12*l*. 10*s*. to 12*l*. 11*s*. 3*d*. in Hull.

ANISE.—Some parcels fair quality Russian anise were offered in sale, but found no buyers. Fifty cases genuine *Star-anise* bought in at 77*s*. 6*d*. per cwt. At the Chinese centres there is no export demand for the article.

ANNATTO.—For 20 baskets very fine bright Pará roll 1*s*. 6*d*. per lb. was solicited. A lot of good bright West Indian seed met with no attention.

ARSENIC remains firm at 11*s*. 3*d*. to 11*s*. 6*d*. per cwt. for white powder.

BALSAMS.—There is no demand for either *Peruvian* or *Tolu* balsam, and prices are nominal. The Peruvian balsam offered to-day was bought in at 4*s*. 9*d*. per lb.; rather less would probably buy.

BLEACHING POWDER is firm and rather scarce at 8*l*. 15*s*. to 9*l*.

BORAX remains steady at 28*l*. to 30*l*. per ton.

BUCHU unchanged. There is no lack of good greenish round leaves, although most parcels offered are rather stalky. Two bales good fresh leaves, just arrived, sold at 3½*d*. per lb. 2¾*d*. is asked for rather lower quality.

CALUMBA.—Fifty bags ordinary dull, mostly very small root found buyers at 11*s*. to 13*s*. per cwt.

CAMPHOR.—Some very good *Japanese* camphor was offered at to-day's sales, also 54 cases *Chinese* camphor, imported in 1882 and rather dark in colour. These were bought in at 63*s*. per cwt. *Refined* camphor in steady demand at 10*d*. per lb. for flowers, and up to 1*s*. 2½*d*. per lb. for cakes. The Hong-Kong market is described as brisk, with a good demand for India.

CANTHARIDES.—In to-day's drug sales nine cases bright coloured *Russian* flies just imported, but apparently of the old crop, were shown and bought in at 7*s*. 3*d*. per lb., no bid being forthcoming. According to Russian advices the crop has suffered owing to the damp and cold which have prevailed in the collecting districts, and higher prices are anticipated for the new crop, which will be due in a few days. Two tins ordinary *Chinese* flies sold at 1*s*. 9*d*. per lb.

CARDAMOMS.—The greater part of the 118 packages offered were disposed of at slightly lower rates, but only a few parcels of the better grades were catalogued. The following prices were paid:—*Aleppy*, ordinary unclipped and lean, 4*d*. to 6¾*d*. per lb.; good are held at 1*s*. 2*d*. per lb. *Ceylon Malabar*, fair medium to bold yellow, 1*s*. 9*d*. to 1*s*. 10*d*.; brown, 1*s*. 6*d*.; dull plump, 1*s*. 5*d*.; fair long pale, 1*s*. 4*d*.; smaller ditto, 1*s*. 2*d*.; ordinary to lean and skinny, 11*d*. to 6*d*. per lb. *True Malabar*, medium grey, somewhat mouldy, 1*s*. 4*d*.; brown and specky to small, 1*s*. 1*d*. to 8*d*. *Mangalore*, indifferent quality and dull in colour, 1*s*. 10*d*. to 1*s*. 11*d*.; ordinary quality, CCC mark, bought in at 2*s*. 6*d*. per lb. *Seeds* sold at 1*s*. 1*d*. to 1*s*. 5*d*. per lb. The shipments from Ceylon from October 1 to June 23 show the following figures:—1886-87, 270,404 lbs.; 1885-86, 197,884 lbs.; 1884-85, 113,500 lbs.

CASSIA FISTULA.—Thirteen bags good, freshly imported, bold pods, slightly mixed with old and mouldy ones, sold at 24*s*. 6*d*. per cwt., and 10 bags very ordinary wormy at 9*s*. 6*d*. per cwt.

CINCHONA.—To-day's offerings were almost confined to South American barks, for which the demand was rather restricted. A few parcels yellow *Calisaya* were disposed of at 1*s*. 11*d*. for rather small sound, and 1*s*. 1*d*. to 9*d*. per lb. for common damaged. An offer of 2*s*. per lb. for rather thin bark was refused. Several lots of *Crown bark* were catalogued without leading to business, but nine bales *Carthagena* found purchasers at 7½*d* to 8*d*. per lb. The Ceylon shipments now stand as follows: October 1 to June 23, 1886-87, 11,028,294 lbs.; 1885-86, 11,995,310 lbs.; 1884-85, 8,020,117 lbs. The latest country were cinchona cultivation is to be attempted is said to be Brazil, where efforts are being made to get the Government to take the initiative in the matter.

"CITRATE OF IRON AND QUININE, OR WHATEVER IT MAY BE," was the title under which 9 cases, containing together 3,000 oz., were offered at to-day's drug sales. The bottles did not bear the name of any maker, but in the catalogue the article was specified as "Fletcher's Make." The parcel was imported from Australia, whence it is believed to have been reshipped to England owing to differences. When the first lot was reached, Messrs. Barron, Horner and Lescher demanded whether the broker could guarantee the article to contain a certain percentage of quinine, or to be according to the requirements of the B.P., or to contain any quinine whatever. To all these queries the broker replied in the negative (although he afterwards expressed a belief that the preparation contained "3 per cent. quinine"), nor could he tell where the parcel came from. Under these circumstances, Mr. Barron justly protested against its sale as citrate of iron and quinine, and the presiding broker begged THE CHEMIST AND DRUGGIST, and *The Public Ledger*, the only two journals which have a special representative at the drug sales, to add to the title the words "whatever it may be." Bidding commenced at 1*d*. per oz., and the first lot was sold at 2*d*. per oz., the two next at 3*d*. per oz., and the last at 3¾*d*. per oz.—by no means an unsatisfactory price. We have heard it stated that the parcels were of one-fourth the strength required by the B.P.

COCA LEAVES remain quiet. There are no really fine leaves offering just now; 1*s*. 2*d*. per lb. is asked for the best parcel on the market, which is of middling quality at best. Twenty packages very inferior leaves were offered to-day, but only one lot sold as low as 2*d*. per lb.

COCAINE very quiet. German in bulk is held at 11*d*. per gramme.

COCCULUS INDICUS.—Fair Cochin is worth 9*s*. 3*d*. per cwt., at which price 22 bags were sold.

COLOCYNTH is said to be by no means plentiful, although no demand was manifested for the 25 packages Turkish apple offered at auction. Only one of these, broken, seedy, and country damaged, sold at 1*s*. per lb.

CREAM OF TARTAR exceedingly scarce on the spot and held at 128*l*. per ton for firsts.

CUBEBS.—Only five cases, not very stalky, mixed berries, quite one-half of them spurious, were offered and bought in at 16*l*. per cwt.

DRAGONSBLOOD.—The 16 cases offered included nothing of particularly good quality. Six packages rather dark-coloured cake sold in a single lot at 70*s*. per cwt. Good *Socotra* drop is held at 4*l*. 10*s*. per cwt., which does not seem dear; siftings, at 70*s*.; and ordinary blocky dust, at 40*s*. per cwt.

FENUGREEK SEED.—138 bags, mostly rather stony, were bought in at 7*s*. 3*d*. to 7*s*. 6*d*. per cwt.

GALANGAL appears to be looking up again. The heavy shipments of last year caused prices to recede, but as the article is such a low-priced one it is generally sold for what it fetches as soon as possible after its arrival, so that the stock does not accumulate. In China much higher prices are now asked than rule at this side. In sale to-day 147 bales sold without reserve at 7*s*. 3*d*. to 7*s*. 6*d*. per cwt. Another lot, good bright root, is held at 8*s*. per cwt.

GALLS remain quiet. At to-day's sales 469 bags *Turkey* were offered, but nearly all bought in, only one lot good green selling at 55*s*. per cwt., and a few damaged parcels at low rates.

GAMBOGE is considerably lower in price, owing partly to the forced sale of a parcel which is stated to have belonged to a firm who recently suspended payment. For this parcel from 15*s*. to 20*s*. per cwt. below the recent value was accepted. Altogether 42 cases were offered, of which 27 sold as follows: fairly bright coloured pipe of very old import and rather broken, 9*l*. 12*s*. 6*d*.; fair blocky pipe, 9*l*. 7*s*. 6*d*.; very broken to discoloured old pipe, 9*l*. 5*s*. to 9*l*., and ordinary pickings 8*l*. 12*s*. 6*d*. per cwt.

GENTIAN ROOT.—16*s*. 6*d*. per cwt. was paid for some good root, just imported from Bordeaux.

GLYCERINE is quoted at many different prices. There is a good business doing, and 75*l*. may be taken as about the nearest price for 1·260 sp. gr.

GUM ASAFŒTIDA.—Twenty-nine cases which have been previously offered in sale were again catalogued, but not a single bid was made.

GUM BENJAMIN.—Of this article very little indeed was offered to-day, although our market is well enough supplied. Dull second *Sumatra*, false packed at the corners, sold at 7*l*. 17*s*. 6*d*. per cwt., and 31 cases very low resiny *Palembang* at 10*s*. 6*d*. per cwt.

GUM ELEMI.—A few boxes very fine white Manila gum sold at 36*s*. per cwt., which is about equal to the previous value, and 28 mats very ordinary elemi mixed with dirt, and probably of South American origin, were bought in.

GUM ARABIC.—The market is firm, and most of the better classes are slightly dearer. At the last auctions *Australian gum* sold rather irregularly, but on the whole cheaper:—Good fair gum at 60*s*. to 65*s*. per cwt.; rough to middling at 52*s*. to 59*s*. per cwt. In *Barbary* gum no transactions are reported. Selected *Cape* gums sell well, but the ordinary qualities are without demand. Of *East Indian gums*, good Aden is very scarce; Amrad has sold rather better for the fine qualities, good pale bringing 132*s*. 6*d*. to 135*s*., and white siftings 80*s*. per cwt.; the commoner classes were chiefly bought in. Ghatti sold fairly well, good gum bringing 60*s*. per cwt., and one or two lots of pale 67*s*. 6*d* to 71*s*. per cwt. As regards *Senegal* gum, the stock of Galam is getting into a small compass, and the price has been advanced to 6*l*. 15*s*, with small sales thereat. In to-day's sale, 5*l*. 15*s*. was refused for two bags of middling quality, which are held at 6*l*. 10*s*. per cwt. Of *Turkey gums*, 9 bales Ghezira in auction sold at 81*s*. per cwt., and privately 82*s*. has been paid for a few bales. Turkey sorts are still nominal in price. At to-day's sales a good assortment was shown, but only one package sold at 11*l*. 10*s*. per cwt.

GUMM MYRRH is 5*s*. per cwt. cheaper, 95*s*. per cwt. being accepted to-day for fair Aden sorts, and 87*s*. 6*d*. for good but rather dark quality *viâ* Bombay. Of 65 packages offered 22 were sold.

GUM TRAGACANTH.—The market is quiet. In sale to-day 12*l*. per cwt. was paid for good small white, and 10*l*. per cwt. for yellow seconds.

HONEY.—Business on this market remains of a somewhat restricted character. A few barrels thin brown Jamaica honey realised 18*s*. per cwt.

INSECT FLOWERS.—Under this name 3 bales flowerheads, bearing some resemblance to Pyrethrum, were catalogued, but the broker did not press them for sale. The demand for the true Dalmatian flowers has now slackened, although nominally the high prices lately ruling are still adhered to.

IODINE has again been raised to 9*d*. per oz. on July 26, and all *iodides* are back at the old price. The sudden changes in value to which this article is now subjected must be extremely annoying to all holders of iodine preparations, from the manufacturers downwards, for even the latter are in complete ignorance concerning the designs of the syndicate controlling the article.

IPECACUANHA.—Thirty-nine packages were offered in sale to-day, but the arrivals have been considerable lately, and it is said that further shipments are on the way. Under these conditions values are again rapidly falling away towards the level occupied before the late rise, and in to-day's sale another decline, amounting to nearly 1*s*. per lb. took place. Fifteen serons sold at from 5*s*. 3*d*. for sound stout annulated to 3*s*. 8*d*. per lb. for very thin root.

IRISH MOSS.—Eight bales brownish moss sold at 8*s*. 6*d*. per cwt.

ISINGLASS sold at irregular prices in Tuesday's public sales, but most varieties were steady if not dearer. Altogether 70,400 lbs. were offered, nearly half of which consisted of Penang isinglass. The Bombay and Kurrachee varieties were also well represented, old tongue selling at slightly lower prices, while cake brought 2*d*. advance in some instances, with good competition. The 11,066 lbs. Brazil isinglass catalogued were almost all disposed of, the best and the commonest qualities at a slight reduction, all other grades at steady rates.

JALAP.—The renewed demand in America has caused a forward movement on the Hamburg market, and here also holders show more firmness. In to-day's sales 6*d*. was paid for pale, rather lean Vera Cruz.

LEAD (ACETATE) has made a further advance, and is now held at 26*l.* 10*s.* per ton for best foreign white.

LIME JUICE.—From 1*s.* 8*d.* to 1*s.* 9*d.* per gallon is asked for Jamaica juice containing the usual proportion of mucilage.

MORPHIA.—The makers still quote 7*s.* 6*d.* per oz., and are apparently very firm, but business appears to be somewhat restricted. In the auctions to-day 800 oz. were bought in at 7*s.*, no higher bid than 4*s.* per oz. being forthcoming, which, of course, was refused. It must be said, however, that parcels such as the one in question do not afford a reliable criterion concerning the true state of the market.

MUSK.—In sale to-day 31 tins Tonquin were offered, 19 of which sold at firm prices, viz.: 84*s.* per oz. for first pile Tonquin, rather small pods, some slightly broken, with thin skin and underskin; 75*s.* to 76*s.* for small, rather skinny and partly broken pods; 60*s.* for fine and 28*s.* to 36*s.* 6*d.* for ordinary third pile; 10*d.* to 1*s.* per oz. for trimmings; and 29*s.* to 42*s.* per oz. for common adulterated to ordinary grain musk. It is stated that some days before the sales a good business had been done privately, and that our stock again is becoming very small.

OILS (ESSENTIAL).—*Star anise* is very dull of sale, and although officially the price of 7*s.* 5*d.* lb. is still adhered to, 1*d.* less would probably buy. In to-day's sales 23 quart bottles *oil of bay leaves* were offered, but not sold. The article appears to be limited at 17*s.* per lb. There has been a lively business doing in *oil of bergamot*, of which the crop is said to be a failure, and prices have advanced to 8*s.* or 9*s.* for fair to good quality, while in Sicily even more than that is asked. In sale 125 lbs. very good bergamot, held at 8*s.* 6*d.* per lb., were offered, while another lot was sold at 6*s.* per lb. *Oil of cassia* is quite a dead letter at present, nominally the price is 2*s.* 8*d.* per lb. but there is no demand at all. *Cinnamon* and *cinnamon leaf* oils remain unchanged at the last quotations. *Citronella* is exceptionally quiet at $\frac{7}{8}$ to $\frac{15}{16}$*d.* per oz., and efforts are made in vain to effect sales on forward delivery. In *oil of lemon* there has been rather more business, and from 5*s.* 6*d.* upwards has been paid for fair quality. In *lemongrass* there is absolutely nothing moving. Some good colourless *nutmeg* oil, held at 3½ per oz. was offered to-day. The Mitcham *lavender* crop promises well, but until the distilling is over prices will not be fixed for the coming season. The *peppermint* crop does not seem to promise so well in Mitcham as the lavender, although the rains which have fallen lately have done much to repair the damage caused by the previous drought. The distilling, it is said, will be rather late this year. American oil of peppermint, in anticipation of a good crop in that country, has declined to 14*s.* per lb. for H. G. Hotchkiss, and there are buyers for forward delivery at 13*s.* 6*d.* per lb., but no sellers. *Otto of rose* is very quiet, with a tendency towards lower values. Several lots *Ylang Ylang* were offered in sale to-day, and bought in, Zobel's brand at 10*s.* per oz. There is very little demand for this oil.

OILS (VARIOUS).—*Castor oil* remains very steady with sales of first Calcutta at 4*d.* per lb., while the same price is required for Italian oil, *Cocoanut oil* is quiet and slow of sale at 24*l* for Ceylon in pipes and puncheons. *Cottonseed oil* is quoted at 19*l.* for crude, and 20*l.* 15*s.* to 21*l.* 5*s.* for refined on the spot. In *linseed oil* there is not very much business doing, 21*l.* 12*s.* 6*d.* to 21*l.* 15*s.* is quoted. There has been a slightly better demand for *olive oil*, and Mogadore is held at 30*l.* 10*s.*, Messina at 32*l.* 10*s.*, and Spanish at 35*l.* *Palm oil* remains neglected at 21*l.* for fine Lagos. *Petroleum* closes quiet and without change at 5¼*d.* to 5⅜*d.* for American, and 5*d.* for Russian on the spot. *Rape oil* is steady at 21*l.* 5*s* to 21*l.* 10*s.* for English brown, and 22*l.* 15*s.* to 23*l.* for refined ditto. The value of *Turpentine* is declining, 25*s.* 9*d.* to 26*s.* being the closing quotation on the spot.

OPIUM.—The crop estimates have now sunk as low as 1,800 cases, and some think that not even this quantity will be gathered. *Karahissar* of the old crop has been bought at Constantinople by English firms at 16*s.* 6*d.* per lb.; and for retail lots of *Malatia* 19*s.* to 20*s.* has been paid. Of *Persian* opium no sales are reported. Still, there is very little business doing either here or in Smyrna, although owners at the latter place seem not at all disposed to reduce their demands.

POTASH COMPOUNDS.—*Bichromate* is still obtainable at 4½*d.* per lb., while in *chlorate* very little is doing. The price is still 6*d.* to $6\frac{1}{16}$*d.* per lb. *Permanganate* is now quoted at 85*s.*, and the German manufacturers will probably advance the price still further. *Prussiate* is also quiet, yellow at 7½*d.* per lb.

QUICKSILVER has recently been advanced in price by the importers, and now stands at 6*l.* 17*s.* 6*d.* in the first hand, while second-hand holders offer a shade less. *Mercurials* have not yet followed the advance, but may be 1*d.* or 2*d.* per lb. higher any day.

QUININE.—There has been some business done last week in *German* quinine in bulk at 1*s.* 9*d.* per oz.; and the makers ask 1*s.* 10*d.* per oz. *English* and *French* brands have undergone no further change, the official price of the former being still 2*s.* 4*d.*, and of the latter 2*s.* 2*d.* per oz. In the drug sales to-day 2,000 oz. of Whiffen's brand were disposed of at 1*s.* 9*d.* per oz.

RHUBARB was in large supply, and some holders showed themselves anxious to meet the market. In some instances prices fell quite 5*d.* to 6*d.* per lb. below the valuations, in others the root sold fairly well, and a single parcel of good small druggists' root, Shensi, fetched an excessive price, viz., 2*s.* 4*d.* per lb. Medium to bold Shensi round, well trimmed, fair fracture, sold at 1*s.* 8*d.* to 1*s.* 10*d.* per lb., smaller root at 1*s.* 6*d.*, good flat, medium to bold, slightly spongy at 1*s.* 3*d.*, small to bold round root with yellow coat at 1*s.* to 1*s.* 1*d.*, flat root, very small with dark fracture, at 11*d.* per lb. Round *Canton*, small to medium root, fairly pink fracture, 1*s.*, and dull old wormy *High-dried* at 6*d.* per lb.

SARSAPARILLA is slightly easier, although the *Jamaica* variety still sells at 1*s.* 10*d.* to 1*s.* 9*d.* per lb. for sound to slightly damaged grey. *Honduras*, however, of which we have a large stock, is entirely neglected, and obtainable at 1*s.* for ordinary, and a slightly higher price for the better brands.

SCAMMONY is becoming very scarce, and fine resin is held at from 28*s.* per lb. downwards.

SENNA.—The new Tinnevelly crop, which is now arriving, is likely to be of better quality than that of the preceding year, and at the drug sales the prices for this commodity, especially inferior old leaves, were slightly lower. Good fresh greenish leaves of medium size sold at 6¼*d.* to 7*d.*; medium to fair qualities at 4¾*d.* to 5½*d.*; and common down to 1½*d.* per lb.

SHELLAC.—At the weekly auctions 761 chests were offered, including 350 chests belonging to the estate of a broker whose failure was recently announced. The bulk of the supply brought forward was sold, at first at a decline of 6*d.* to 1*s.* per cwt., which was, however, recovered towards the end of the auction. *Second orange* brands fetched from 40*s.* to 43*s.* 6*d.*; unworked *Garnet*, 33*s.* 6*d.*; *button lac*, first 50*s.* to 53*s.*; ordinary third, 34*s.* 6*d.* Speculation is entirely dead in the article.

SODA COMPOUNDS.—*Ash* has been in better demand at 1⅛ to 1¼ per degree landed; *bicarbonate* is quoted at 6*l.* 15*s.*; *caustic* neglected, and lower in the North. On this market cream and white 60 per cent. are quoted at 7*l.* 10*s.* and 7*l.* 15*s.* respectively. *Crystals* are rather scarce, the production being interfered with by the hot weather. London quotes 53*s.* 6*d.*, the Tyne 45*s.* 6*d.* to 46*s.* per cwt.

VANILLA.—Only 24 packages were catalogued, and of these a few sold at 19*s.* 6*d.* for 7½ to 9 in., and 17*s* for 6½ to 7 in. A small case of a new kind of vanilla has just been received in London from Brazil, and it is not impossible that if it meets with a favourable reception the quarter whence this supply has been drawn will furnish larger quantities. We hope to have a note on the subject next week.

WAX (BEES') is still in good supply, but the sales at this week's auctions were smaller in proportion than they have been for some time. *Jamaica* wax realised 6*l.* 7*s.* 6*d.* for fine yellow, 6*l.* for good orange, and 5*l.* 5*s* for dark coloured. Two lots good pale partly grey mixed *Australian* wax sold at 6*l.* to 5*l.* 15*s.*

WAX (JAPAN) neglected. Good pale squares are held at 47*s.* per cwt, an offer of 46*s.* 6*d.* being refused.

Correspondence

Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish.

Write on one side of the paper only; write early; and devote a separate sheet of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers please mark what you wish us to read

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Before writing for formulæ consult the last volume, if you have it.

Letters, queries, &c., not noticed in this issue will, if possible, be attended to next week.

Limited Companies—The Pharmacy Act.

SIR,—In your tirade on July 21 against drug companies you select Henry Hodder & Co. (Limited) as the first of your "awful examples." I conclude from the satirical tone your information was derived from a rival of that company.

It is evident you did not wait to give them fair play. I am informed you had previously applied for information, and this was officially supplied you, reaching you the day after the date of your issue.

Of the twenty-seven employés in Hodder & Co. (Limited) the majority are considerable shareholders, and are duly-qualified assistants.

Mr. Henry Hodder has been in business as a chemist and druggist for nearly forty years, and retains the management of the limited company.

The three directors were carefully selected for their general knowledge of business.

The "gentleman" has realised a fortune from a business in which a good deal of chemical skill is requisite. The "valuer" is a member of a firm of the highest standing and extensive practice in the West of England, with offices in the same street as Hodder (Limited). That company do not sell aërated waters, but, thanks to the reckless competition of the Chemists' Association Co-operative Mineral Water Company (Limited), one of the directors has ample leisure in the winter to protect the interests of the shareholders from attacks in any quarter.

The public were not "invited to take shares." No prospectus was issued, no advertisement appeared. A private circular at an outlay of a few shillings sufficed to procure more than the necessary subscription.

Some chemists, among others, who offered to subscribe, were politely refused.

If the Pharmaceutical Act interferes with this class of enterprise the general trading and investing public must go to Parliament and procure its repeal or amendment.

Are the Stuart monopolies to be revived? If so, let all manufacturers and compounders, from the huge alkali-works to the smallest retailer of every article injurious to man (including alcohol) be vested in the hands of the State. You can publish "extras" weekly with arguments for and against.

Meantime, as your comments and sneer will have had one week to germinate before this explanation can appear, may I ask, in common justice to the directors and shareholders of Hodder & Co. (Limited) you give this all the prominence you can.

Yours, &c.,
A SHAREHOLDER. (134/69.)

[Our information concerning Hodder & Co. (Limited) was derived from the official source provided for us by law, and did not come from any rival. The above letter most forcibly supports our contention that "the Pharmacy Act of 1868 is logically incompatible with the existence of companies trading as chemists and druggists." Our correspondent, we imagine, does not appreciate the point. He thinks he has answered all objection to his company when he shows that the "gentleman," the "valuer," and the "mineral-water maker," who are to regulate the affairs of this company, are men of business experience. Our objection is simply that they are not pharmacists; that they have not given the evidence of competence which Parliament (not we) has declared to be necessary before *persons* may call themselves chemists and druggists.]

SIR,—With Lord Young's emphatic decision in the Court of Justiciary the other day pharmacy has received a most humiliating rebuff.

Apart from that learned gentleman's uncalled-for and altogether unfair remarks, it seems at the best—to me at least—that the same decision might be expected from the House of Lords. One cannot help thinking that the palmy days of pharmacy are numbered. Will not depôts and limited liability companies generally revel, and wag their ignorant heads with manifest delight at Lord Young's pithy and wise remarks! Whew! When expectant pharmacists are about to witness the business of their adoption blossom into a profession, the cruel and irresistible influence of a legal frost nips the puny bud, and quells for ever the hopes of aspiring druggists. No more hard study, sir. No more quakings and suspense in the examination-room! No education! Throw study to the dogs! The veriest chimney-sweep in existence can dispense to his fellow-creatures strychnine and arsenic *ad libitum*. Such is life—pharmaceutical life, I mean. It is contemptible, sir, to think that the yet honourable title of chemist is about to fall upon and adorn the uncouth shoulders of all and sundry; and more especially to think that one confirmed ass can say to six other asses, "Let us form a company for the dispensing of drugs *cheaply*."

I will suggest the only cure that I can think of for this revolution of things. It is this—that the Pharmacy Act be abolished. Don't startle, sir! It won't be such a loss as it appears at first sight. The only thing a chemist would lose by it would be his certificate—I mean, of course, that his certificate would be of no more use to him than a white elephant, for everybody would then be quite justified in being his own chemist, and as a consequence poisons would be spread broadcast without let or restraint. It would be the first thing to elevate the regular chemist in the eyes of the public. Abolish the Pharmacy Act by all means. There's a hole in it somewhere, and unqualified persons are clever enough to know how to benefit by it.

But perhaps there is a hopeful view of the case after all. I can imagine the system of Limited Liability Companies dying a natural death; there seems to be too much excitement about it to guarantee anything like stability. Or, what would be still better, the system might yet receive at the hands of the "Lords" a reversal of Lord Young's opinions.

Excuse me, sir, for encroaching so much upon your valuable space, but I am certain that my feelings of disgust will be endorsed by every reader of your ever-welcome CHEMIST AND DRUGGIST.

I am, yours, &c.
HOPEFUL. (136/8.)

A Scotch correspondent (13/135) writes:—"I take this opportunity of expressing my great satisfaction with the able manner in which the decision of the High Court of Justiciary is commented upon in the Editorial Note of the issue of this date (July 23)."

A correspondent from the West of England (58/135) says: "I must write a line just to say how pleased I was to see the spirited article on 'Company Pharmacy' in this week's issue, and I hope you will urge on the Pharmaceutical Society to decisive action."

SIR,—Long ago I came to the conclusion that to combat the views of even the fairest of editors in his own columns is highly impolitic. I do not propose, therefore, to deal with the facts, guesses, and conclusions contained in your article of last week on "Companies and the Pharmacy Act." There is, indeed, little need to do so, as I am at present quite content to accept the decisions of the highest legal authorities as to these eminently legal, fair, and even philanthropic institutions. Should I unfortunately, at some future time, be obliged to object to their expositions of the law, I may ask you to courteously allow me to state my views, when doubtless they would be received with the same consideration and respect as are accorded to your present condemnation of the judgments of the courts. I observe, however, that you do me and a company with which I am connected the honour of laying our affairs before your readers in leader type, and I have no doubt that you would wish that the information given should be not only accurate, but fair. I am bound to believe that this desire and your zeal for the safety of the public will be both gratified, in communicating to your disinterested and public spirited readers (what they would not gather from your report) that from the establishment of the company referred to, in 1882, until within about two months of the date of the return from which you quote the greater number of shares were held by a chemist, then and now upon the register of the Pharmaceutical Society of Great Britain. It would, of course, be an "insult to common sense" to suppose that anybody but this qualified person was, during those years, "the chemist and druggist who sheltered himself behind the Southampton Drug Company."

It will scarcely be necessary for me to entreat you to use the means, which I will now place in your hands, for further allaying the fever of anxiety for the public safety which must have been engendered in the minds of some of the most benevolent of your readers by the awful revelations which you make respecting the "three large and two small companies." Please allow me to say that the perilous state of affairs revealed in the return of the above company from which you quote was only of a temporary nature, and has long since been remedied. We are all acquainted with the infallible safeguard against the misuse of poisons which renders their sale, whether by chemists or errand-boys, absolutely safe—namely, that the poisons shall have been paid for with money absolutely belonging to a qualified chemist; if purchased with anyone else's money they become dangerous in the extreme, by whomsoever afterwards sold. This essential condition of safety, your readers will be relieved to learn, has long ago been restored, as far as this company is concerned. Perhaps it is hardly worth while to add that poisons are always sold by one or other of the *eight* registered chemists who are engaged in carrying on the business of the company, as, if I mistake not, this is a regulation which chemists lay no stress upon, have not themselves observed, and do not wish enforced. If everything in a shop in which these dangerous substances are sold is the absolute property of a chemist, it is not necessary that he should ever enter the shop, as the perfect safety of the public is ensured, according to all right (Pharmaceutical) reasoning, and poisons may in such cases be sold by anybody, however ignorant, whom he may choose to employ. I cannot close without thanking you for your kind intentions in conferring upon me a title which I have always considered to belong to you alone, and which, however honourable, I do not claim, and must respectfully decline.

I am *not*, sir, yours truly,

The CHEMIST AND DRUGGIST. (50/137.)

Experiences in Queensland.

SIR,—I note in your columns with much pleasure additional information on the above subject from your correspondent "Ora et Labora." He says I misunderstood one of his former statements, and I readily accept his correction. On the other hand, "Ora et Labora" has certainly misunderstood me. In taking exception to his London training, it was his "business" training to which I intended to refer particularly, although I think it goes without saying that continuous life in London, even from a social point of view, is scarcely a good preparation for life in a remote colonial district. Be that as it may, your correspondent's first letter was calculated to deter anybody from trying his fortune as a chemist in the rural districts of Australia, and thus the question of personal adaptability to the circumstances is fairly raised. For instance, take the local scarcity of milk and fruit. To meet these wants, what is there to prevent a country chemist from keeping a few milch goats and cultivating 9 or 10 poles of garden ground, providing he has the necessary knowledge to manage them? The latter part of my letter (to which "Ora et Labora" appears to take personal exception) was intended to refer to the question of emigration generally. So far from thinking "Ora et Labora" a dismal failure, I consider he has done a good performance in getting a respectable living in such a remote and thinly populated district, heavily handicapped, as I still hold him to be, by his previous total lack of experience in country business, manners, and customs. To make my contention clearer, I may say many years ago I left a good situation in the West-end of London in order to get some knowledge of country trade, and the first thing I realised in my new sphere was that the apprentice of about three years' experience was worth a regiment of such as I in the kind of business we had to do. In order to conduct business to the best advantage, I take it one must be able to talk to one's customers on something like level terms. Fancy a London assistant having to deal with and talk intelligently of such cases as splints, curb, gripes, farcy, foot rot, garget, scour, &c. He would be hopelessly at sea; therefore I consider any young man contemplating commencing business as a chemist in a bush town should surely get as much experience as possible of the kind of business in the old country as would be likely to be of most service to him in the new.

To succeed in spite of such conditions only proves the possession of exceptional business abilities, or, what is more probable, the existence of better openings abroad than at home. I am, sir, yours faithfully,

North Road, Highgate. CHARLES SAUNDERS.

P.S.—Your correspondent surprises me in speaking so slightingly of the State schools. He does not mention the ultimate effect of an education completed in these schools; but surely nothing could be more deplorable, according to his own showing, than the result of finishing off in a big city like Sydney or Melbourne.

SIR,—Though a reader of your journal for very many years I have not ventured to occupy your valuable space as a correspondent, but in the interest of the aspiring chemists of the old country—many of whose lines do not appear to have fallen in pleasant places—I now beg to request you will be good enough to insert the following, in relation to a letter signed "Ora et Labora," under the heading of "Experiences in Queensland," and date November 30, 1886, published in your journal of March 12, 1887.

Your correspondent does not give a correct impression either of the status or prospects of chemists in Australia, and while he is doubtless expressing his own experiences in perfect good faith, I venture to think that he must by an unfortunate choice of locality, or from other causes, be personally responsible for the unpleasant nature of such experiences, and, had he confined his remarks to the colony he writes from, and not introduced the word "Australia" in a condemnatory sense as regards the advantages offered to chemists, I should not have troubled you with a reply to the letter in question; but when I find a gentleman with the limited experience of two years in a remote bush town in Queensland offering to "condemn" the letters of well-wishers to the trade in recommending Australia to its notice, I fear a wrong impression may be thereby conveyed, and beg to remind your correspondent that Australia embraces many colonies as well as a great variety of climate, as I can personally testify, having travelled over a large portion of the continent of Australia, and through the colonies of Victoria, South Australia, and Queensland, besides having been for over ten years settled in business in New South Wales.

Queensland alone embraces a great variety of climate; in the vicinity of Bowen, for example, the climate is delightful; northern Queensland, however, is very hot, and, indeed, tropical, but in the southern colonies, and especially near the coast, the climate is very fine, and in portions of New South Wales and Victoria the climate of England may be enjoyed without the intensity of England's winter.

So much for climate; but the principal complaint of "Ora et Labora" appears to be his social position. That will be pretty much as he makes it; he tells us that the Government officials do not associate with him, while stating the officials in question "are mostly the descendants of the labouring classes." If this latter assertion were correct, whence his evident mortification at their not associating with him?

The facts are quite otherwise, both as to the origin of the said officials and the status of a chemist in the colonies.

Mr. F. S. Grimwade, of the firm of Messrs. Felton, Grimwade & Co., of Melbourne, when recently in England gave you, I observed in a former number of your journal, a true and fair account of a chemist's status and prospects in these colonies; and when on a recent visit to England Mr. Bosisto became personally known to many of your readers, and has also expressed his opinion on the above subject. Mr. Bosisto is a member of the Victorian Parliament, and a well-known chemist in these colonies, and I venture to assert that the above-named gentlemen, whose colonial experience extends over very many years, will convey a more correct impression of the prospects and social position of a steady chemist in the colonies than "Ora et Labora," and their statements are, I may be allowed to suggest, quite as reliable.

To any whose love of ease and desire for the "civilising influences of a cathedral city" outweigh every other consideration, and all right and proper desires to become fairly independent as to means, and to making provision for one's family and old age, I would say as I do to "Ora et Labora"—Such as you are not wanted in, and will not be missed from, our colonies; but to an energetic, steady, and industrious young chemist I say—By all means do not add to the number of malcontents I see figuring weekly in the correspondence columns of THE CHEMIST AND DRUGGIST, under the familiar heading of "The Stores," "Cutting Prices," &c. Try the colonies. Call at one of the wholesale houses, take the first situation that offers; if qualified, and possessing also the above-named qualities, an engagement at a good salary may be relied upon. Save your money for a few years, and having shown that you are steady and reliable, call again upon your wholesale chemist, and tell him what you have saved. It is not so much the amount as the evidence of self-denial and other sterling qualities that is esteemed, and rightly so. Ask for particulars of such businesses for sale as are likely to suit your means. If you have as an assistant gained the confidence of the wholesale house, you will be assisted in the purchase; bring your steady and industrious habits to bear on your business, observe the peculiar requirements of your district, and devote yourself to supplying them. A fair sprinkling of proprietaries will be found an advantage, and a good prescriber will always command larger and certainly more profitable returns out here than a mere retailer; and in New South Wales there are no restrictions as to prescribing, the chemist's right to prescribe being equal to that of the duly-qualified medical practitioner. While in the country the prices are higher and profits larger, one is tied more to the counter than need be the case in a city business. The people knowing, usually like to see the proprietor. In the city the keenness of competition and high rents, however, outweigh in my opinion the advantages as to more interesting surroundings, &c., and a few old-established houses usually hold the trade; but in a young country like Australia there are constantly new towns springing up and openings offering.

Some of your readers may say I have told too flattering a tale, but I am writing as the result of seventeen years' experience in the various Australian colonies, personal and from close observation. Seven of my former assistants are now in business for themselves, and doing well. Three of the seven learned their business from me, and two of these I myself started in business before they were twenty-two years of age, and one of these two is now a justice of the peace in a neighbouring colony, and in social status considered quite the equal of the Government officials "Ora et Labora" tells us about.

I may add that in addressing you I have no other reason but that of a desire to benefit my brother-chemists, who appear for the most part to have a hard time of it in the old country, and if one such man as I have described be influenced by this letter in joining his brethren over the seas, and his condition in life thereby become improved, I shall not have written in vain.

But a word of warning before I conclude. Any one who does not answer my description, and more particularly as to steadiness and sobriety, should remain at home with his friends. He would only suffer disappointment from the very lack of those qualities that are essential to success in any calling. Apologising for the length of this letter, which nothing but the importance of the subject to many of your readers would excuse,

I beg to subscribe myself,

New South Wales, May 30, 1887. VERITAS. (134/67.)

P.S.—I enclose, for your information only, my name, address, and proof of my *bona fides*. I do not desire to be known by, or have any direct communications from, any of your readers; but I shall be glad to give any information in my power to such as in your opinion require it—keeping in view the class of men suitable as colonists. All such communications to come through your office; and I shall, after going through the various letters, get a clearer idea of what information would be of service, and endeavour to condense my reply into one letter, to be published in your journal—that is, if you will be good enough to agree to my proposal, which is made in the interests of the trade.

The Pharmaceutical Council Vacancies.

SIR,—Absence from home has prevented my seeing until now your issue of July 9, in which you remark upon some rather singular proceedings that have from time to time occurred in filling up vacancies at the Council Board.

It appears, then, that the Council have a peculiar method of filling up by-vacancies. One illustration, however, seems to have escaped your notice.

For some three or four years consecutively, commencing, I think, in 1881, the whole of the fourteen retiring councillors resolved to offer themselves for re-election, and on each occasion they were successful so to speak *en bloc*, although the majority that bridged the gulf between the favoured and the unfortunates gradually but surely decreased. In 1884 I was placed in the enviable position of *proxime accessit*.

At the first meeting of the Council after that election Mr. Hampson tendered his resignation by letter. This prompted many of my supporters to congratulate me upon the position I should now acquire; but Mr. Hampson at the request of the Council, and, I am bound to believe, to the satisfaction of the trade generally, reconsidered his position, and elected to remain as a Council member. So far so good.

On November 24, however, a letter was sent by Mr. Andrews tendering his resignation. This was accepted. What did the Council do at their January meeting? Instead of acceding to the wishes of the persons who had sufficient interest in the affairs of the Society to record their votes at the May election, and, if I may use Mr. Symes's words, act on "the constitutional grounds" by electing the *prox. acces.* to fill the vacant place, they elected a gentleman who, so far as I can find, had never stood in a contest for a seat at the Council Board. I make no comment, but only point out the facts in addition to those you have already mentioned.

Faithfully yours,

11 Strand, Torquay, July 25. CHARLES SHAPLEY.

The Pharmacy Act of Ireland.

SIR,—Referring to your report of the prosecution by the Pharmaceutical Society of Ireland, it is gratifying to the members to find that something is attempted if nothing is done, but it is very unfortunate that, if comparison is allowed, the least flagrant case was selected.

There are several cases in Dublin where the Pharmacy Act is violated. In some cases "chemists and druggists" have a compounding department conducted by a pharmacist. In one case a pawnbroker's assistant carries on the business without any assistance. In another a gentleman, whose qualification is "L.M.," carries on business openly. Another case is that of a grocer and spirit merchant, whose only claim is that a brother of his, now ten years deceased, carried on business as drysalter and oil and colour merchant in a very small way. A well-known dentist is owner of establishments where compounding is carried on in several towns as well as in Dublin.

The way in which the Pharmacy Act is carried out is such that passing the examination is very little advantage, except that it is a necessary qualification for a few public appointments.

Yours truly,

J. T. HOLMES. (136/70.)

An Unexpected Result.

SIR,—In your issue of February 26, page 280, you publish three recipes for teething powders. You recommend No. 1. I thought they would be very good teething powders, therefore the next customer that asked for this article I gave some of No. 1. A few days later the box was brought back with the message that the lady did not like to give them because they were damp.

I opened the packets and found that each paper contained, not a powder, but a blue liquid resembling blue ointment about the consistency of glycerine.

The powders sent out were as follows :—

Hyd. c. cret.	gr. j.
Pot. bicarb.	gr. j.
Sacch. alb.	gr. ij.

M. Ft. pulv.

Can you explain, and oblige,

Yours very much surprised,

A NEW ZEALAND CORRESPONDENT. (135/22.)

[The powders have been kept in a very damp place, the change being due to the deliquescent character of the bicarbonate of potash. If bicarbonate of soda is used instead of that salt, and sugar of milk in place of ordinary sugar, the powders will be unobjectionable.]

Children's Powders.

SIR,—In face of the case mentioned in this week's CHEMIST AND DRUGGIST, in which a chemist is placed in an unfortunate position, due to giving a powder similar in composition to what is given daily under similar circumstances, would it not be well for chemists to put up a powder different from the ordinary aperient powders that are given when mothers say they want a teething powder? Would not the pulv. cretæ arom. be the best, or what would you advise?

Truly yours,

DUPLEX. (135/15.)

[We fail to see how the suggestion would get chemists out of the difficulty. A common remedy is given because it is considered safe; if an uncommon one were given the druggist would certainly lay himself open to censure.]

DISPENSING NOTES.

[*The opinion of practical readers is invited on subjects discussed under this heading.*]

Cod-liver Oil in Mixture.

SIR,—I had the following prescription brought in the other day. Is it correct to use any emulsifying agent, or should it be dispensed exactly as written?

Ol. morrhuæ	℥ij.
Syr. ferri iodid.	ʒj.
Aquæ ad	℥viij.

M.

Yours truly,

S. W. H. (259/37.)

[No addition should be made without the sanction of the prescriber. The syrup and oil are frequently prescribed together without any addition.]

Lin. Saponis Co.

SIR,—What is meant by lin. sapon. co.? Is it lin. saponis, B.P., or lin. opii, B.P.? We have had a prescription—lin. bellad., ℥ss.; lin. sapon. co., ℥iss.—and our customer informs us that the liniment varies at different shops, sometimes being straw colour and sometimes pale brown.

Yours respectfully,

LINIMENT. (136/7.)

Limousin's Cachets.

SIR,—The intention of the prescriber in this instance is that the chemist shall prepare the powders and send them out in these cachets. To do this many chemists have the proper appliances. It is a question for "Wilts" to consider whether the demand will repay the first cost. I bought the apparatus some years ago, and it has paid the first outlay many times over.

Yours truly,

YORKS. (136/61.)

LEGAL QUERIES.

The Proposed Curriculum.—It may be assumed that if the Curriculum Bill should ever get through Parliament fair notice of the enforcement of a curriculum would be given; and we expect it would be agreed that candidates who had passed the Preliminary examination at that date would be eligible for the Minor *sine curriculo*.

Adeps (19/131).—Your query is answered on page 81.

9/133. *Chromium.*—If you give a receipt for a sum of 2*l* or upwards you render yourself liable to a penalty unless you attach a penny stamp thereto, no matter whether the money be paid by cheque or otherwise.

58/134. *K. J.*—We should think your label would render the preparation liable to medicine-stamp duty. But why not submit it to Somerset House and be sure?

3/135. *Veritas* asks:—"Does the tr. opii aquos. come under the Adulteration Act to be sold as laudanum?" The question might be expressed more clearly, but we suppose the correspondent means to ask whether such a preparation can be sold as laudanum without infringing the Sale of Food and Drugs Act. The point is open to doubt. The Sheffield magistrate thinks that even "tincture of opium" need not be made from the official formula. On the other hand, another magistrate might admit evidence as to what is generally understood by laudanum, and on such evidence might reasonably convict.

63/136. *A. B.*—The letters L.D.S. can only be used by persons who hold a dentist's certificate from one of the Colleges of Surgeons.

MISCELLANEOUS INQUIRIES.

138/57. *A. Ponsford.*—**Digestive Bread.**—A variety of bread is now made which is partly digested before it is baked. This is done by mixing either malt extract or powdered malt with the ordinary ingredients of bread, making into a dough, and exposing this to the proper temperature for some time before baking. Gluten bread, to which you refer, is made from wheat flour deprived of a part of its starch. Make the flour into a paste with water, place the paste in a linen bag, and wash with a running stream of cold water until no more starch comes away. The bread made from the residue is used by diabetic persons. The substance used for preventing bees entering the shop is carbolic acid. If saucers full of it are placed at the door, it is stated that the bees will not enter.

Books.

133/26. *W. R. B.*—**Dogs.**—The following are some published works:—"Dogs and Cats" (Ward & Lock; 1*s.*); "Stonehenge on the Dog" (Longmans; 7*s.* 6*d.*); "The Dog" (Warne; 1*s.*); "Hill on the Dog" (Baillière; 10*s.* 6*d.*).

135/64. *H. Henshall.*—The combination of phosphorus and tin to form phosphide of tin can only be effected by melting the tin and throwing the phosphorus upon it. But phosphide of tin may be prepared more economically by heating together in a blast-furnace for an hour 6 parts of tin filings with 1 of charcoal, 10 of bone ash, 5 of powdered quartz, and 5 of boracic acid.

136/13. *T. T. W.*—We cannot give you explicit directions for preventing the fermentation of the sauce without knowing its composition.

136/60. *Wallace.*—You will find numerous hints on **Crystallisation** in the series of articles on "Simple Chemical Experiments," published in this journal last Christmas. Make a strong solution of any salt; place in the solution a piece of cord, and set the solution aside in a warm place for several days or weeks. Crystals will form round the cord.

136/72. *H. Boutelle.* — **Hand-grenade Solution.** — A German chemist states that he finds on analysis the composition of the Hayward solution to be:—Chloride of calcium, 18·329; chloride of magnesium, 5·700; chloride of sodium, 1·316; bromide of potassium, 2·179; chloride of barium, 0·265; water, 72·211, with traces of iron and aluminium chlorides. Harden's grenade is stated to consist of a solution of common salt and sal ammoniac. On page 128 you will find another formula.

134/65. *Salicine.*—**French Polish** is a solution of shellac 3 oz., and sandarac or benzoin 1 oz., in sufficient methylated spirit to make 1 pint.

136/58. *R. B. & S.*—**Essence of Vanilla.**—We have found the following formula satisfactory:—

Vanilla (cut small)	1 oz.
Musk	1 grain
Carbonate of potash	10 grains
Boiling water	4 oz.
Rectified spirit	12 „

Place the vanilla and potash in a flask, and pour the boiling water upon them. Cork up, set aside until cold, then add the spirit and the musk. Digest for two weeks, and filter.

The musk greatly improves the odour of vanilla, just as it improves lavender.

130/70. *Subscriber* (Grimsby) states that the tincture of nux vomica which he makes always deposits, and asks if he should filter it. Yes. Extracts seldom make clear solutions, even in exactly the same menstruum as they have been prepared with. The insoluble matter is probably altered extractive, or it may be fatty matter. This is the principal objection to the use of solid extracts for tincture-making. It would have been much better if the Pharmacopœia had ordered liquid extracts for the preparation of this tincture, and also for ipecacuanha wine. This correspondent also requires a method for making oxymel scillæ without evaporation.

134/15. *Signet.*—**Liquid Blue.**—Chinese blue (the finest, and powdered), 4 oz.; oxalic acid (powdered), 2 oz. Make into a cream with boiling water, then add sufficient cold water to make a gallon. This makes an excellent blue, which neither "specks" nor "flecks." Chinese blue must be used—not Prussian blue. Many druggists do a large trade in "ingredients for blue." Each packet, sufficient for a winebottleful of liquid, contains Chinese blue, ½ oz.; and oxalic acid, ¼ oz. (both powdered). This sells at 2*d*. or 3*d*.

134/3. *V. E. P. N.*—**Infant's Gripe Water.**—Ol. anethi, ♏xx.; compound tincture of chloroform, ʒi.; rectified spirit, ʒiv.; bicarbonate of potash, ʒiss.; glycerine, ℥iss.; water to Oij. Dissolve the oil in the rectified spirit and add water until it is milky, then shake up with a drachm of phosphate of lime, filter and add the other ingredients to the filtrate.

Fever Drops (for Children).—The following formula gives a safe preparation:—Acet. ipecacuanhæ (1 in 20) ʒj.; liq. ammon. acet., ʒiv.; syrup. aurantii, ℥j.; water to ℥iv. Doses: Under one year, ʒss.; one to three years, ʒj.; four to eight, ʒij., given every half-hour for six doses, then, hourly.

133/58. *F. W. Coates.*—**Custard Powder.**—Colour a pound of Oswego corn flour with powdered turmeric and flavour with ratifia.

Blanc Mange Powder.—Also Oswego flour, without colouring, flavoured with lemon.

Ozone for Bedrooms (before page 62).—Mr. F. H. Alcock states that in adding the sulphuric acid to the permanganate of potash (which should be powdered and dried) explosion is apt to result, if the acid is not added very gradually.

133/13. *G. H.*—The **Lemon Fruit Powder** which you send is composed of citric acid and oil of lemons. You will find an excellent formula for lime juice and glycerine in last volume, page 431. It can be made at about ½*d*. per oz.

257/27. *Anti-Smut.*—The article used for dressing wheat is *impure* sulphate of copper. One pound of this coarsely powdered will make a 6*d*. packet of your "**Farmer's Friend.**"

133/37. **Essence of Rennet.**—One of the best methods for filtering this preparation is described in the "Art of Pharmacy. Briefly stated it is this:—Fill a small funnel with absorbent cotton, then cover the funnel with a piece of muslin tied round the neck. Now attach several yards (four or more) of indiarubber tubing to the funnel, and place it in the rennet essence. The vessel containing the essence should of course stand in an elevated position so as to give the tube the necessary fall. To start filtration suck the tube until the liquid flows, then it will go on with considerable rapidity. The best preservative of the essence is salt, but this is now giving place to glycerine and salicylic acid.

132/25. *F. B.*—**Calf-kid Polish.**—Boil together logwood, 1 oz.; borax, ½ oz.; shellac (powdered), 6 drs.; and water, 2 pints, for twenty minutes, then strain 20 oz. Add to this 40 grains sulphate of iron, 20 grains salicylic acid, and 5 drops oil of wintergreen. Set aside for a day or two, then strain and bottle. To be applied with a sponge.

130/74. *T. Geyer* (Emmerich).—The **Composition for Printer's Rollers** is made by soaking 1 part of glue in one part of water until soft, then add 2 parts of treacle and dissolve by the aid of heat. Finally add 0·5 per cent. of powdered alum.

135/32. *Kali Acid* wants "a cheap formula (*sic*) for lemon kali—as cheap as possible so long as it will effervesce." He may use tartaraline instead of tartaric acid; this will lower the price by about 2*d*. a pound—not a sufficient inducement, we should think, for abandoning wholesome tartaric acid.

Repentant Subscriber.—Some little time ago (write a firm in the North) we discontinued your journal, thinking, as we had not much time to peruse it, that we should scarcely miss it. We have felt the deficiency much more than we calculated, and send you herewith 10*s*.

HOW TO SELL QUININE. — A correspondent of the *Tropical Agriculturist* writes in the following strain:—"Taking quinine—say Howard's—at 2*s*. 8*d*. per oz., surely it would pay to make up small phials—sealed with Howard's seal—and stitch them on cards, to be sold at all railway bookstalls and elsewhere, under the veteran bookseller's (W. H. Smith's) world-known name to prove the genuineness of the article. A good lot could now be given for 6*d*. and leave W. H. Smith a vast profit in a year, and that net profit he might be disposed to give to hospitals." How pleasantly other people arrange our business for us!